







A  
PLATFORM  
FOR  
PURCHASERS,  
A GUIDE  
FOR  
BUILDERS,  
A MATE  
FOR  
MEASURERS.

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By *WILLIAM LETBOURN.*

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In IV. BOOKS.

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An Account whereof is given in the  
Preface to the Reader.

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L O N D O N,

Printed for Thomas Raw Bookseller in the City of Bath in  
Somersetshire: And Sold by Obadiah Blagrove at the Bear  
and Star in St. Pauls-Church-Yard, 1685.

PLAYERS  
FOR  
PURCHASERS  
A GUIDE



BULE  
FOR  
MEASUREMENTS

IN THE BOOK

An account of the

LONDON

Printed for the  
and

TO HIS  
HONOURED FRIEND  
**John Tillison,**  
PAY-MASTER and CLERK  
of the WORKS  
TO THE  
**Cathedral of St. PAULS:**

A FAVOURER of all  
ARTS and SCIENCES  
And the PROFESSORS of Them,

More especially of such as relate to  
*Building & Architecture.*

**WILLIAM LETBOURN,**

In Gratitude

For Several Favours from Him Received;

Humbly presents this his

**QUADRUPLE MANUAL**  
*ARCHITECTONICAL.*



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John F. Johnson

Author of

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# TO THE READER.

*Friendly Reader,*

**T**His Treatise when first Published, viz. Anno 1667, was intended chiefly for the information of such Persons as were concerned either in Letting, Buying, Selling or Building, of (or upon) Ground then in the Ruins of the City of London, occasioned by the Dreadful Fire, which happened there upon the 2, 3 and 4 days of September, Anno Dom. 1666, in the space of which three days, there were no less than Twelve Thousand Houses laid in their own Asbes:

## To the Reader.

*but when the two First Parts thereof were Printed, which did justly administer Rules and Directions both to Buyers and Sellers, Landlords and Tenants, Lessors and Lessees, Builders and Workmen, in their respective Concernments. But notwithstanding, since that time I have been further importuned to add something concerning the Measuring of the several Works belonging to Building, the which I then performed by several Tables ready Calculated according to the several Artificers Works relating to Building, which Tables I have in this Edition much enlarged, and added others also ready computed for the Rates of the same Works, whether by the Rod, Square, Yard, &c. (and Odd Feet of either of them) at any Rate from the highest price to the lowest; and whilst this second Edition was in the Press, and fearing that not only Gentlemen (or Owners) but Workmen also, may not be fully satisfied*



To the Reader.

sted with those Tables only: I have thought good to add to the foregoing Three Books, a Fourth, An account of all which shall here follow.

**T**He First Book consists of five useful and necessary Tables of Anacismé, or Compound Interest, calculated to the Rate of 6 L per Centum per Annum, for any number of years under 31.

The First of which Tables will tell you, what any sum of Money being forborn any number of years under 31, will amount unto. The second shews, That if any sum of Money, due any number of years to come, under 31, what such sum is worth in present Money, Discounting or Rebating after the Rate of 6 per Cent. Compound Interest. The Third will tell you, What Annuity, Rent or Pension, being forborn or unpaid for any number of years under 31, will be augmented unto. The Fourth shews,  
What

## To the Reader.

*What any Annuity, Rent or Pension, to continue any number of Years under 31, is worth in present Money. And the last tells you, What Annuity, Rent or Pension, to continue any number of Years under 31, any sum of Money will purchase. These are the Five Tables, and there is no Question that can be propounded in any of these kinds, but one or other of these Tables will resolve it. I have Calculated the several Tables, both in Vulgar Numbers, as Pounds, Shillings, Pence and Farthings, and in Decimal Numbers also, to shew the difference between them in the Arithmetical Resolving of any Question, whereby the difficulty of the one, and the facility of the other, may be discerned. And here I have not only inserted the Tables themselves, but laid down the Canon, Analogy, or Proportion by which they were made, whereby the Tables may be continued to any farther number of Years, and to any other Rate of*  
Inte rest.

## To the Reader.

Interest. Each particular Table I have Illustrated by Examples, in propounding and answering Questions of several kinds, properly appertaining to each Table, and such as most men (at one time or other) will have occasion to make use of. For the rendering of the Arithmetical Work in the Use of these Tables the more easie, I have (for the benefit of such who are not so well versed in the Science of Arithmetick, as the Use of these Tables do require) added a large Table of Multiplication, by which any Man may Multiply any large sum, without any charge at all to his Memory, although he cannot tell, without Book, that 5 times 6 is 30, or 3 times 4 is 12; which Table also I have made plain and easie by Examples. And for thy farther supply, I have added Tables of Simple Interest and Rebate, both at 5, 6 and 8 per Cent. with the manner how to Calculate the like Tables for any time, and  
for

## To the Reader.

*for any other Rate of Interest: All which are exemplified by Questions propounded and answered by help of them.*

**I**N the Second Book, I have in a plain and familiar way, given you the Names, Rates, Qualities and Quantities of the several Materials belonging to Building, and what quantity of each will be requisite for the erecting of any Fabrick great or small; with a near Estimate of the Prizes of the said Materials, and of the Works of the several Artificers employed in Building; not as a Tax-Master, but at such moderate Rates and Prizes, as (I think nay) I know formerly they would have freely accepted. And by these Helps, Estimates, Valuations and Contracts may be made without any great damage either to Builder or Workman. And unto this Second Book I have added the Design of the Carcass or Timber-Frame

To the Reader.

Frame of a House, and also of the Floor, and divers sorts of Roofs, declaring the Names of the several Members thereof, which will be both profitable to Workmen, and delightful to all Builders.

IN the Third Book, I have Tables ready Calculated for the Mensuration of the principal Materials belonging to Building, as Board, Timber, Stone, &c. And also for the Mensuration of the Works of the several Artificers therein employed, as the Carpenters, Bricklayers, Masons, Plaisterers, Glasiers, Joiners, Painters, Paviers, &c. whether their Work be measured by the Foot, Yard, Square or Rod, the dimensions being taken only in Feet and Inches.

To the Reader.

In the *Fourth Book* is taught,

I. **H**OW to Measure all manner of Superficies, as Board, Glass, Pavement, Wainscot, Painting, Plaistering, Flooring, Roofing, Partitioning, and all Superficial Measures, whatsoever.

II. **H**OW to Measure all manner of Solids, as Stone and Timber, Brick-work, Stone-work, Digging for Foundations, &c. Regular or Irregular.

*All which Particulars are performed by Arithmetick, both in Vulgar Numbers and Fractions, and also by Decimals, which of all others (in these kind of Mensurations) is the most exact, and easiest to be performed by the Pen. And also the above-mentioned Particulars are as necessary for any Gentlemen (in City or Country) to understand, and (upon occasion) to put in practice,*



## To the Reader.

practice, as for any Surveyor or Artificer, whatsoever.

And to bring up the Rear of all, I have added the manner how to collect and cast up a Bill of Measures, and to take the true Draught or Ground-plan of any House, Ruinous Foundation, or other Piece of Ground, how Irregular soever it be; and to cast up the Content thereof.

And thus (Friendly Reader) the fore-mentioned Four Books I commend to thee, hoping they will prove no less useful unto thee, nor receive worse acception from thee, than its Elder Brethren have done already; and so I bid thee heartily Farewell.

WILL. LEBBOURN.



# ADVERTISEMENT.

**I**F any Gentleman or other Person, desire to be instructed in any of the Sciences Mathematical, as *Arithmetick*, *Geometry*, *Astronomy*, the Use of the *Globes*, *Trigonometry*, *Navigation*, *Surveying of Land*, *Dialling*, or the like, Either at their own Houses, his Habitation, or such other convenient place as the Party shall direct, the Author hereof will be ready to attend them at times appointed.

Also, If any Persons would have their Land, or any Ground for Building *Surveyed*, or any Edifice or Building *Measured*, either for the *Carpenters*, *Bricklayers*, *Plasterers*, *Glassers*, *Joiners*, or *Masons Work*, he is ready to perform the same either for *Master Builder* or *Workman*.

Likewise, If any Person desire to have about his House or Garden, any kind of *Sun-Dial*, or *Dials*, of what kind soever, either fixed or movable, he will prepare or make for them such as they shall desire.

You may hear of him at the Shop of Mr. Robert Morden at the Sign of the *Atlas* in *Corn-hill*, where are sold *Globes*, *Maps*, *Planispheres*, and other *Mathematical Instruments*. Or at the House of Mr. Walter Hayes, at the *Cross-Daggers* in *Moor fields*, next door to the *Popes-head Tavern*, where you may have all sorts of *Mathematical Instruments*: Likewise at Mr. Duttons *Glass Painter*, at the Sign of the *Sun-Dial* in *Holborn*, over against *Fetter-Lane*.

# PLATFORM FOR PURCHASERS.

## The First Book.

*Diffeminus,*  
*Inquillinus,* } Interlocutors.  
*Rationarius,*

*Inquillinus.*

SIR, well met, I make my appearance here at this time, in obedience to the Court, and according to your Summons.

*Diffeminus.* You are well met, but I come not hither to meet you only, but others, who (indeed) constrain me to it.

*Inq.* Indeed I wondered at your summoning of me hither, you know (I think) that I was never addicted to contention, but upon any occasion of difference, have at all times been more willing to reconcile, than make the breach wider.

B

*Diff.*

*Ditif.* For my part, I had rather, and could wish that the difference which at present is between us, might be ended by our selves (if possible) without the troubling of a Court or any other person.

*Inq.* I am very free to end it without the Court; but your demands are (in my judgement) so unreasonable, that I fear when we do meet it will be but to little purpose.

*Ditif.* If you think my demands unreasonable, let me hear what overture you will make, that I may judge of the reasonableness thereof.

*Inq.* When I see you last (I conceive) I made then as fair an offer as you (or any man in reason) could expect from me, who have been to your knowledge so great a loser by the late Casualty.

*Ditif.* I confess your losses have been great, and I think my proffer to you at our last meeting was very fair: But that you shall see that I am as unwilling to go to Law, or to trouble any Court as you are, what think you if we should refer our difference to our quondam neighbour and friend *Rationarius*? whom you well know both for his integrity and ability.

*Inq.* He is the man with whom I have a long-ing desire to speak, and would (could I have heard of him since this general dispersement of friends) have acquainted him with our difference, and advised with him concerning it.

*Ditif.* I am very glad you so freely condescend to so just and reasonable a Proposal, wherefore let us appoint a time to go to him.

*Inq.* Do you please to nominate the time and place, and I will wait upon you.

*Ditif.*

*Disif.* To morrow morning.

*Inq.* With all my heart, but I hope we may have that labour, and end our business now; for see, yonder he comes.

*Disif.* We will motion it to him now, if he be at leasure.

*Inq.* I conceive it not so convenient now to fall point blank upon him with our particular difference; but (if he be at leasure) let us take him aside, and discourse with him concerning affairs in general between Landlord and Tenant, possibly we may gather from him in discourse, that which may satisfie both you and me concerning our particular, without acquainting him of any difference there is betwixt us. And this way I would the rather go, because (although I be Tenant to you yet) I have Tenants my self, with some of which I am fearful I shall have more trouble in contesting with, than I am willing to undergo.

*Disif.* I like your motion very well, and one hours discourse with him may give us satisfaction not only in our own case, but in others of the like nature.

*Rat.* My good neighbours and friends well met, I am heartily glad to see you both in good health; this late dissolution by Fire hath so dispersed us, that it is a very great mercy and comfort for friends and neighbours to meet one another, but I am heartily glad to see you both.

*Disif.* Seeing of you coming this way, we made it stand till you come up to us, intending (if your occasions will permit) to enjoy your good Company, and entertain half an hours discourse with

*Rati.* An hour is at any time at the service of either of you.

*Inq.* I give you many thanks.

*Dit.* Whither shall we go?

*Rati.* If you think it convenient we will walk a while in the Temple-walks.

*Dit.* There are many contentions and differences that continually arise between Landlord and Tenant since the late dreadful Fire, concerning the Leases & Fines given and taken for houses, so that there is continual hearings before the Judges, the determining the Cause between them as by Act of Parliament they are ordered and appointed.

*Inqui.* Methinks it is a great trouble for the Judges to meet as they do; cannot men agree among themselves, but sure it is for want of having some Rule prescribed them to walk by.

*Dit.* *Rationarius*, Sir, What Rule is there, may be prescribed for the letting or selling of Leases of Houses?

*Rati.* Neighbours, In my judgment there is nothing that I know that is so common among men that requires more serious consideration than the letting or buying, letting or taking of Leases of Land or Houses, and of Houses especially.

*Dit.* Why is there more difficulty in the one than in the other.

*Rati.* Houses are far more incident to casualties than Land is, and therefore cannot have so easy a method (in all cases) prescribed, as in the letting or purchasing of Lands, for 1. The Permanency of Land, it decays not as houses do. 2. The common casualties that they are (the best of them) liable to, as by Rain, Wind, &c. which, make

( 5 )  
them continually to be out of repair, so that the  
Buyer or Seller, the Lessor or Lessee can be at no  
certainty in any wise, and that is one chief reason.

*Inq.* But such Bargains are continually made a-  
mong men, and surely they go not by their own  
judgments only, but by some Rule that carries  
Authority along with it.

*Rati.* The chief Rule that I can prescribe unto  
you, which is the only and best way to make the  
ballance equal between Lessor and Lessee) is the  
Rate that by the present power is set upon Money,  
which at this time is at 6 per Cent. It was in the  
time of King James at 8 per Cent. and in Queen  
Elizabeths days at 10 per Cent.

*Dutif.* And pray Sir, how do they value Leases  
from this Rate of Money?

*Rati.* When Money was at 8 per Cent. a Lease  
of a House for 21 years was esteemed (general  
casualties considered) worth 7 years purchase, by  
which account the Purchaser was allowed 13 in  
the hundred profit for his money.

*Inq.* If that were esteemed then as a general  
Rule, 21 years for 7 years purchase, What is a  
Lease of a House for 21 years worth, now that  
Money is at the Rate of 6 per Cent?

*Rati.* You are to observe this as a general Rule,  
that if Interest-money decrease, the purchase of  
Land or Houses increase.

*Dutif.* This seems strange to me,

*Rati.* The reason of it is very plain; for the less  
profit is allowed for money, the greater Sum of  
money must be disbursed for to bring in the like  
profit. As for example, When money yielded 8  
in the hundred, 100<sup>l</sup>. would then bring in 8<sup>l</sup>.  
B 3 a year;



a year, but now it is at 6 per Cent. 100<sup>l</sup>. in a year will bring in but 6<sup>l</sup>. so that 75<sup>l</sup>. when money was at 8 per Cent. would yield 6<sup>l</sup>. whereas now 100<sup>l</sup>. will yield no more.

*Disf.* This is a good reason, and I clearly apprehend it.

*Ing.* I could not at first conceive so, but I am now convinced, that it is so.

*Rati.* This being understood, if 13 in the hundred were esteemed a competent and indifferent profit, for a mans laying out of his money upon the purchase of Leases of Houses when money was at 8 per Cent. I conceive, that if he have 10 in the hundred allowed for his money, it will be as reasonable and equal as the other was; for at this rate a Lease for 21 years is worth somewhat above 8 years and a half purchase.

*Disf.* And this you conceive to be an indifferent rate to be allowed for the purchase of Leases of Houses now money is at 6 per Cent. 21 years for 8 years and an half purchase, and so proportionably for any other number of years?

*Rati.* Yes, I do account so; but do not mistake me, I do not mean that because 21 years is worth 8 years and an half purchase, that 42 years which is as much time more, shall be worth 17 years purchase, which is double the money; for (allowing 10 in the hundred profit for the money as before) a Lease for 11 years will be worth 8 years and a half purchase, a Lease of 21 years will be worth but little more than 8 years and a half purchase, and a Lease of 31 years but 9 years and three quarters purchase, and of 60 years will be but worth 10 years purchase.

*Disf.* Now I see the reason.

*Ing.*



*Inq.* I did not conceive, that because 21 years was worth 8 and a half years purchase, that 42 years should be worth 17 years purchase; but on the contrary, I could not conceive that a Lease of 10 years should be worth so much, and one of 60 years worth so little.

*Disf.* I cannot conceive the reason of the so great disparity, but would gladly be satisfied how it comes to pass.

*Rati.* The reason hereof is this: the increase which a man may make of his money by the quick return thereof, produceth a profit equivalent with the loss which he sustaineth by parting with so large a Principal out of his hands for so long time, and men know not what error they run into when they set a high rate and value upon a long Lease of a House, and under-value a short one.

*Inqui.* I should think if a man had money to spare, it were better to purchase a Lease for 40, 50 or 60 years, than for 21 years.

*Disf.* I am of your mind also.

*Rati.* Let me hear your Reasons.

*Inqui.* I conceive (and think that I am in the right) that if I give 7 years purchase for a Lease of 21 years, it will be 7 years ere my Principal money comes in again, and then have I but 14 years remaining for the increase of my money laid out, and in all the time of 21 years shall return my money but three times: Whereas, if I purchase a Lease of a House of a 100 years, which I may have for 13 years purchase, although it will be 13 years before I receive my Principal money in again, yet after I shall have 87 years income for the profit of my money, and in the whole time receive my money al-

most 8 times over, and therefore I conceive the purchase of a long Lease, (the price thereof so little augmenting) is far more beneficial for me to purchase than a usual Lease for the term of 21 years.

*Rati.* This is that which deceives most men. But let me tell you, if you purchase a Lease of 21 years for 7 years purchase, though you return your money but three times in all that 21 years, yet you are then at liberty to make such another bargain for 21 years longer, and after that for 21 years more, and if you continue so doing for five changes, which will be 105 years (whereas your other one Lease was 100 years) you shall return your Principal 15 times over, of which 10 of those will be clear gain, and by the other Lease of 100 years, his profit will not be much above half so much.

*Disif.* I perceive by the President you have here given, that it is so, but the reason why it is so, I understand not.

*Rati.* The reason is this, long Leases are much overvalued, and short Leases undervalued, for in the purchase of a long Lease, the Purchaser hath not above 8 in the hundred profit for his money; whereas in the purchase of a shorter Lease he hath after the rate of 13 in the hundred allowed him; but this is for want of due consideration, and practice hath made it almost a custom.

*Inq.* How may these abuses be rectified, and men have a ballance to weigh these differences in, thereby to do right both to Landlord and Tenants?

*Disif.* I do not see, but by what you have delivered,

yered, a man may as well wrong himself in letting of long or short Leases, as him that he deals withal.

*Rati.* You say very right.

*Disf.* To whom then shall we apply our selves ?

*Rati.* To *Art.*, to the impartial Judge, and the Determiner of all such differences, who neither regards Buyer nor Seller, Landlord or Tenant, but that both shall have an equal proportion in time and profit, to which I refer you.

*Inq.* I would gladly embrace and honour so just a Master.

*Disf.* And I reward him to the best of my ability.

*Rati.* You are both my loving Friends and Neighbours, and I tell you, I have composed five Tables, which Tables will resolve any Question that can be proposed either for buying of Land or letting Leases of either Land or Houses, for Reversions, Pensions, Annuities, or any thing else of that nature; which Tables I have calculated for the present worth of Money as now it is constituted, namely at 6 per Cent. compound Interest, which Tables at our next meeting I will freely shew you, and the manner how to use them: Wherefore when you have armed your selves with Questions, if you repair to me, I will shew you the way how by my Tables to resolve them, and any of the like nature; and also give you directions how to make the like Tables for any other Rate of Interest, and for what number of years you please. And now (till our next meeting) I bid you both heartily farewell.

*Inqui.*



*Inquilinus.*

**SIR,** I am come to wait upon you to know what time would be convenient for us to go to our friend *Rationarius*, to see those Tables he told us (at our last meeting he had Calculated, and would shew us, and the use of them, in answering of Questions concerning Interest and Annunities; and about the selling or letting of Land or Houses, for I have divers Questions to propose to him, which if his Tables will resolve (as I do not Question but they will, we having his word for it) they will prove to be of singular use to all men as well as to you and me.

*Disissimus.* I had been with him before now, but that I expected you to call me; for I have several Questions concerning my own affairs which I would have him shew me how to resolve; wherefore I am ready at any time to go to him, now if you will.

*Inq.* I came to you for that very end.

*Disif.* Come then, let us go.

*Inq.* I will wait upon you.

*Disif.* Sir we have made bold to trouble you at this time, to claim the promise you were (at our last meeting) pleased to offer so freely unto us.

*Rationarius.* Gentlemen and Friends, you are welcome to me, and what is in my power, is at your Command. You speak now concerning the Tables of Compound Interest which I told you I had Calculated.

*Inq.*

*Inq.* We do Sir.  
*Rationarius.* Pray Gentlemen sit down, and I will bring them to you.

*Disif.* How free is this Gentleman to impart his knowledge to us upon so slender an acquaintance?

*Inq.* I ever observed him to be of a mild and free temper and disposition, and now I find him to be so.

*Rationarius.* See here Friends, these are my five Tables I told you of.

By the first of which you may know, *What any sum of money, being forborn any time under 31 years, will be augmented unto.*

My second will resolve you, *That if a sum of money be to be forborn any number of years under 31, what that sum is worth in ready money.*

The Third will tell you, *What any Annuity, Rent, or Pension (to be annually paid) will amount unto, if the same be forborn any number of years under 31.*

And by the fourth you may find, *What any annual Rent, Pension, or the like (if forborn any number of years under 31) will yield (or is worth) in ready money.*

And my fifth Table will inform you, *what Annuity, Rent, or Pension, payable yearly, any sum of money will purchase.*

*Inq.* Indeed they are all of singular good use, I wish I understood them, and knew how to use them.

*Disif.* In my judgment the last Table seems to be of the most general use.

*Rationar.* They are all so useful, that at one time or other, either the *Seller* or *Purchaser*, the *Landlord*

Landlord or Tenant, the Debtor or Creditor, will have occasion for them, and if any of them had been superfluous, I would not have taken the pains to calculate it. But if you are provided of Questions of which you would be resolved, let me see them, and you shall receive satisfaction in the Solution of them.

*Inq.* Those which I desire to be resolved in, are here in Writing.

*Dirif.* And so are mine also.

*Rationa.* Let me see them — In the resolving of these Questions all the five Tables will be made use of. Some of them will be answered by my first Table, some by the second, &c. Wherefore, I will pick out all that are to be resolved by the first Table first, and then such as will come under the notion of the second; and so of all the rest in order, all which you shall see easily and familiarly resolved.



THE



THE  
Description, Construction, and Use  
OF  
FIVE NECESSARY  
TABLES.

Calculated (both in Decimal Numbers, and according to Vulgar Arithmetick) after the Rate of 6 per Cent. Compound Interest.

By which the present Worth of any Sum of Money to be forborn for any Number of Years, or to be Discounted or Rebated for, or any Annuity, Rent, or Pension, either in present Possession, or in Reversion, is worth in ready Money.

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L O N D O N,

Printed in the Year, 1684.



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L O N D O N.

Printed in the Year, 1684.

# The First Table.

Declaring what any Sum of Money, being for-  
born any number of Days, Weeks, Months,  
or Years, under 31, will be augmented unto,  
accounting Interest at 6 per Cent. per Annum.

L. s. d. q.		Decimal parts.	Year.	l. s. d. q.				Decimal parts.
<b>Days.</b>			1	1	1	2	2	1.06060
			2	1	2	3	2	1.12360
			3	1	3	9	3	1.19101
			4	1	5	3	0	1.26247
			5	1	6	9	0	1.33922
			6	1	8	4	2	1.41852
			7	1	10	0	3	1.50363
			8	1	11	10	2	1.59385
			9	1	13	9	2	1.68948
			10	1	15	9	3	1.79085
			11	1	17	11	2	1.89830
			12	2	0	3	0	2.01219
			13	2	2	7	3	2.13292
			14	2	5	2	2	2.26090
			15	2	7	11	1	2.39656
			16	2	10	9	2	2.54035
			17	2	13	10	1	2.69277
			18	2	17	1	0	2.85434
			19	3	0	6	0	3.02560
			20	3	4	3	3	3.20714
			21	3	7	11	3	3.39956
			22	3	12	0	3	3.60354
			23	3	16	4	3	3.81975
			24	4	0	10	3	4.04893
			25	4	5	10	10	4.29187
			26	4	10	11	3	4.54938
			27	4	16	5	2	4.82234
			28	5	2	2	3	5.11168
			29	5	8	4	2	5.41838
			30	5	14	1	1	5.74549
<b>Weeks.</b>			1	1	0	0	1	1.00016
			2	1	0	0	3	1.00031
			3	1	0	0	8	1.00048
			4	1	0	0	6	1.00064
			5	1	0	0	8	1.00080
			6	1	0	0	9	1.00096
<b>Months.</b>			1	1	0	0	1	1.00112
			2	1	0	0	2	1.00224
			3	1	0	1	0	1.00336
			4	1	0	1	1	1.00448
			5	1	0	2	1	1.00560
			6	1	0	3	1	1.00672
			7	1	0	4	1	1.00784
			8	1	0	5	1	1.00896
			9	1	0	6	1	1.01008
			10	1	0	7	1	1.01120
			11	1	0	8	1	1.01232
			12	1	0	9	1	1.01344
			13	1	1	0	1	1.01456
			14	1	1	1	1	1.01568
			15	1	1	2	1	1.01680
			16	1	1	3	1	1.01792
			17	1	1	4	1	1.01904
			18	1	1	5	1	1.02016
			19	1	1	6	1	1.02128
			20	1	1	7	1	1.02240
			21	1	1	8	1	1.02352
			22	1	1	9	1	1.02464
			23	1	2	0	1	1.02576
			24	1	2	1	1	1.02688
			25	1	2	2	1	1.02800
			26	1	2	3	1	1.02912
			27	1	2	4	1	1.03024
			28	1	2	5	1	1.03136
			29	1	2	6	1	1.03248
			30	1	2	7	1	1.03360



## A Description of this TABLE:

**B**Efore I declare unto you, either the Construction or Use of the Table; I will first discover the parts of it unto you, which are chiefly two. The first consisting of *Days, Weeks, and Months*: As of *Days*, from 1 to 6 compleat; of *Weeks*, from 1 to 3 compleat; and of *Months*, from 1 to 11 compleat. The second consisteth of *Years*, from 1 Year to 30 Years compleat.

Now against every *Day, Week, Month, and Year*, there stands in two Rows or Columns, two certain Numbers, the one of *Pounds, Shillings, Pence, and Farthings*, thus marked or noted at the head of each Column, *l. s. d. q.* signifying *Pounds, Shillings, Pence, and Farthings*; these numbers stand in the first of the two broad Rows or Columns. And in the second Column, there stands divers other Numbers, called *ras* by the title over them appear *Decimal parts*.

So in this first Table, against 1 Year, you shall find *1 l. 1 s. 2 d. 2 q.* to stand, and the Decimal part that stands against the same Year, is 106000 which in Decimals signifies the same with *1 l. 1 s. 2 d. 2 q.* the figure 1 standing to the right hand, signifying 1 pound sterling, and the other figures 06000 are the Decimal parts of a pound sterling. Inqu. I see plainly that against 1 Year there stands *1 l. 1 s. 2 d. 2 q.* and also this number 1.06000 and likewise that against 7 Years there stands *7 l. 10 s. 0 d. 3 q.* and this number 7.503631 and also that against 23 Years there stands *3 l. 16 s. 4 d. 3 q.* and this Decimal part.

Dis.

*Disf.* I perceive the same also, and that against 2 weeks there stands 1 l. 0 s. 0 d. 2 q. with this Decimal part 100224. — — — And that against 6 months there stands 1 l. 0 s. 7 d. 0 q. with this Decimal part 102956, but what the meaning thereof is, I know not.

*Inq.* I am at a stand for that also.

*Ration.* Concerning that, I will give you immediate satisfaction. The 3 l. 16 s. 4 d. 3 q. which you see stand against 23 years, declares thus much, *That if one pound, or 20 shillings, should be forborn for 23 years, it would be augmented or increased to 3 l. 16 s. 4 d. 3 q.*

*Inq.* Is that the meaning of it? and is it so in all the rest of the numbers?

*Ration.* The same.

*Inq.* So then this Table tells me, that if 20 s. or one pound, should be forborn 3 years, it would be augmented or increased to 1 l. 3 s. 9 d. 3 q. and in 10 years it would be increased to 1 l. 15 s. 9 d. 3 q. and in 28 years, to 5 l. 5 s. 2 d. 3 q. — — — Or in 6 months it would be increased to 1 l. 0 s. 7 d. 0 q.

*Ration.* You understand it rightly, and that is the true intent and meaning of those numbers set against any number of *Days, Weeks, Months, or Years.*

*Disf.* I understand this very well, but Sir, what do those Decimal parts which stand in the other Column against every year signifie? I understand not them.

*Inq.* Nor I neither.

*Ration.* They signifie the same in Decimals, as the other do in Pounds, Shillings, Pence, and farthings.

things. Supposing one pound or 20 s. to be divided into 100000 parts. — As against 5 years, you see there stands 1 l. 6 s. 9 d. and this Decimal part, 1.33822. Now the figure 1. which stands towards the right hand, having a point after it, signifies 1 l. and 33822. which stands towards the right hand of the point, signifies, that if 1 l. or 20 s. were divided (as here we suppose it to be) into 100000 parts, that number is 33822 of those parts, which is equal in value to 6 s. 9 d.

*Inq.* So then the Decimal part which stands against 13 years, being 2.13292. signifies, 2 l. and 13292 parts of a pound, the pound being supposed to be divided into 100000 parts, which 13292 parts is equal in value to 20 s. 7 d. 3 q.

*Ration.* You apprehend as it is. And the reason that these numbers are so put, is for ease in Calculation, as I shall discover to you anon, all Multiplication of Pounds, Shillings and Pence, being by this means avoided, and the multiplying of whole numbers only effecting the work intended with more facility and exactness, as in the construction and use both of this, and the other Tables, you will plainly perceive. And so now I will shew you

*The Construction of this TABLE.*

*Inq.* That will be very satisfactory to me.

*Disf.* And to me also.

*Ration.* Then I will discover unto you the making of them, both according to Vulgar Arithmetick, and also according to Decimals, and thereby you shall judge of the difference, and use that which best likes you. And here note, that all these

5. Tables are composed according to the present worth of Money, as it is by Authority allowed, which at this time is at 6 *per Cent*. This being presupposed, the analogy or proportion by which this Table is composed, is as followeth.

I. By *Vulgar Arithmetick*.

As 100 *l*.

Is to 106 *l*. the Principal and Interest for one year,

So is 1 Pound or 20 *s*.

To the increase of 1 *l*. or 20 *s*.

Wherefore you must say by the Golden Rule, or Rule of Three. Say,

If 100 *l*. in a year will be augmented to 106 *l*. to what will 1 *l*. be augmented to in the same time?

*Inq.* This stands to good reason.

*Ration.* Set your Numbers in this order.

If 100 *l*. yield 106 *l*. what 1 *l*?

You must turn your 106 *l*. first into shillings, by multiplying it by 20, and it will make 2120 *s*. then you must turn those shillings into pence, by multiplying them by 12, and they make 25440 *d*. these pence you must turn into farthings, by multiplying them by 4, and they make 101760 *q*.

These farthings you must divide by 100, (which is done by cutting off the two last figures towards the right hand) and the Quotient is 1017 farthings, and  $\frac{6}{10}$  of a farthing, and so much will 1 *l*. or 20 *s*. be increased to in a year.

Then divide 1017 by 4, and it produceth 254 *d*. and 1  $\frac{6}{10}$ .

Divide 254 *d*. by 12, it produceth 21 *s*. and 2 *d*.

C 2.

which



which turned into Pounds, is 1*l.* 1*s.* 2*d.* 1*q.*  $\frac{4}{10}$ . and so much will one Pound be increased unto in a year, as by the Work following you may see.

1*l.* 1*l.* 1*l.*  
If 100 yield 106. what 1?

20

2120 Shillings.

12

4240

2120

25440 Pence.

4

1017 | 60 Farthings.

2 (1*q.* 2*d.*

222 (21*s.*

444 222

1*l.* 1*s.* 1*d.* 1*q.*

2—1—2—1  $\frac{4}{10}$  of a Farthing.

But in the Table I have set down the increase for one pound to be 1*l.*—1*s.*—2*d.*—2*q.* because  $\frac{6}{10}$  of a farthing, is above half a farthing.

*Inq.* This is plain and easie, but very tedious.

*Ration.* It is so, wherefore I will shew you how to find the Decimal part belonging to the increase of one pound or 20*s.* that you may see the difference; For which this is the proportion.

II. By



II. *By Decimals.*

As 100 *l.*

Is to 106 *l.* the principal and increase,  
So is 1, or Unity, with any number of Cyphers  
added to it, (as five) to the Decimal belonging  
to the increase of one pound.

Wherefore set your numbers thus.

As 100 *l.* to 106 *l.* so is 1 *l.* 00000 to what?

Multiply 1 *l.* 00000 by 106 *l.* and it produceth  
10600000, which divide by 100 (which is done  
by cutting off the two last figures or Cyphers to  
the right hand) and it then is 1.06000. As by  
the Work you may see,

$$100 \text{ l. } — 106 \text{ l. } — 1 \text{ l. } 00000$$

$$\begin{array}{r} \phantom{1.} 600000 \\ 1. 00000 \\ \hline 1. 060000 \end{array}$$

This 1.06000 is the Decimal-part belonging to  
the increase of 1 *l.* or 20 *s.* for a year, and is the  
same number with that in the Table.

*Inq.* This is wonderful easie and expeditious  
over the other is, but is it so exact?

*Ration.* Every jot, and the more Cyphers you  
add to Unity, the more exacter it will be, as after  
a while I will discover unto you. But first let me  
shew you how to find the numbers belonging to  
the second, third, and fourth years, &c.

*Diff.* That will be very convenient.

*Ration.* They are thus found, the Analogy being much the same. For,

As 100

Is to 106000 the increase for 18.

So is 106, the principal and interest for 1 year.

To 1.12360, the increase for 2 years.

And this is the second number in the Table.

Then for the third number. Say,

As 100

Is to 1.12360 the increase of 20 s. for 2 years,

So is 106 the principal and interest for 1 year.

To 1.19101 the increase for 3 years.

And thus may you continue the Table to what number of years you please.

*Ing.* Then for the fourth year, I must say,

As 100

Is to 1.19101,

So is 106

To a fourth number.

That is, I must multiply 1.19101 (the preceding years increase) by 106 (the common principal and interest) and cutting off the two last figures; So have I 1.26247 for my fourth years increase, as I have here done it.

100—1. 1 9 1 0 1—106

1 0 6

7 1 4 6 0 6

1 1 9 1 0 1 0

1. 2 6 3 4 7 | 0 6

*Ration.*

*Ration.* You understand it very well, and have truly wrought it.

*Inq.* I thank you for your instructions, which are so plain, that he must be very ignorant indeed, that cannot learn by your directions.

*Disf.* What hath been hitherto delivered, I right-well understand, and I like these Decimal parts, and prize them for their ease and facility in the Arithmetical work; Division being wholly avoided. But when I have found these numbers, I know not what to make of them, that is, I do not know how to find how many Pounds, Shillings, Pence, and Farthings, are contained in this 1.12360 (which is the second number) in the Table, or any other.

*Ration.* Having thus given you the general Description and construction of this Table, in the which I have been the larger, because I would remove all obstacles in those that follow (for those are made either by the converse Rule, or some other equivalent.) I should now proceed to answer your Questions, but first I will shew you how you shall readily turn any Decimal part into Pounds, Shillings, Pence, and Farthings, which is the thing you now desire.

*Disf.* Were I satisfied in that, I should think the use of the Table's easie.

*Inq.* I conceive, when I understand how to do that, I shall lay by Multiplying and Dividing of Pounds, Shillings, and Pence, and make use of these Decimal-parts which resolves the Question, as if they were numbers all of one denomination.

*Ration.* They do so indeed, and he that knows how to use them, will (in these and the like cases)

never use the other ; however, I have set them down both ways, that any man may use that which pleaseth him best. But now let me shew you how to turn a Decimal part into Pounds, Shillings, Pence, and Farthings.

*Inq.* That I would gladly know.

*Ration.* For to set down the whole Pounds, and the whole Shillings, from any Decimal part, is as easie, as to set them down the usual and common way; but to set down the parts of a Shilling, that is, the Pence and Farthings, is somewhat more troublesome, for that it will require a Table of Reduction, such as I have here inserted, which shews the quantity of Pence and Farthings which are contained under any Decimal part less than 500, 500 being the decimal part belouging to one Shilling, 250 the decimal part of 6 d. 125 the decimal part of 3 d. and 188 the decimal part belouging to 4 d. 29. and 073 the decimal part belouging to 1 d. 39. and so the rest as in the Table.

*Disf.* I think I apprehend the use of this Table; As thus, If I have a Decimal part, being 365, is not that answerable to 8 d. 3 q? and if I have 302, is not that answerable to 7 d. 1 q?

*Ration.* It is so, and so throughout the Table, what number of Pence and Farthings stand against your Decimal part, those are the value of that Decimal part.

A TABLE of Reduction, shewing the Fraction parts of a Shilling in Decimal Numbers.

Decim. D. 2. parts		Decim. D 2 parts.		Decim. D 2 parts.	
0100	1	1774	1	3448	1
0210	2	1884	2	3548	2
0310	3	1984	3	3658	3
0421	0	2085	0	3759	0
0521	1	2195	1	3859	1
0631	2	2295	2	3969	2
0731	3	2405	3	4069	3
0832	0	2506	0	41710	0
0942	1	2606	1	42710	1
1042	2	2716	2	43710	2
1152	3	2816	3	44810	3
1263	0	2927	0	45811	0
1353	1	3027	1	46911	1
1463	2	3127	2	47911	2
1563	3	3237	3	49011	3
1674	0	3338	0	500 A Shl.	

*Inq.* This Table, and how to apply it, I understand very well, but how to set down the Pounds and Shillings, I understand not yet.

*Ration.* That I tell you is as easie, and the manner how to effect it, I will now shew you. — Suppose 2.13292 (which is the Decimal against 13 years)

years) were a Decimal part given, and you would know how many Pounds, Shillings, Pence and Farthings it contains. You are to take notice that the figure 2, which standeth before the point, is two Pound, wherefore set down 2 *l.* for that. Then for the figure next following the point (which here is 1) you must for every Unite thereof set down two Shillings; wherefore, this being but one, you must therefore for it set down 2 *s.* (If it had been a 2, you must have for it set down 4 *s.* if a 3, 6 *s.* if a 4, 8 *s.* &c.) But now for the other figures remaining, namely 3292, you may (in this case) reject the last 2, and look 329 in your Table, which you cannot find, but the nearest to it in the Table is 323, against which stands 7 *d.* 3 *q.* wherefore the 3292 (or 329) signifies 7 *d.* 3 *q.* and so is the whole value of your Decimal part 2. 13292, 2 *l.* 2 *s.* 7 *d.* 3 *q.* as you may see it against the 13th year in my first Table.

*Inq.* I think I apprehend this.

*Ration.* Come then; Set me down the value of this Decimal part 3.81975 in Pounds, Shillings, Pence and Farthings.

*Inq.* I will try. First, for the 3 which stands before the Prick, I set down 3 *l.* then for the 8 (which is the next figure after the prick) I set down 16 *s.* then have I remaining 1975, I reject the 5, and look in the Table for 197; which I find not, but I find 198, which is the nearest thereto, and against it I find 4 *d.* 3 *q.* which I set down, and so my Decimal 3.81975 is in value equal to 3 *l.* 16 *s.* 4 *d.* 3 *q.*

*Ration.* You apprehend it well, and have set it down right; but that you may at no time be at loss, let me see you give me the value of this Decimal

ma/



cimal 3.39956, in Pounds, Shillings, Pence, and Farthings.

*Inq.* First, for the 3 which stands before the prick, I set down 3 *l.* then for the 3 after the prick, I set down 6 *s.*

Nay, here you are in an error, for in setting down your shillings, you must, if the second figure after the prick be 5, or above 5 (as here it is 9) for it set down one shilling more than the double of the figure next after the prick; So here instead of 6 *s.* you must set down 7 *s.* and taking (in your mind) 5 from 9, there will remain 4956 then rejecting the 9, you have 495 remaining, which you cannot find in the Table, but the nearest to it is 490, or 500 11 *d.* 3 *q.* standing against 490, and one shilling against 500, wherefore the Fraction in truth is 11 *d.* 3 *q.* half farthing, but in my Table against the 21 year, I have set it down 3 *l.* 7 *s.* 11 *d.* 3 *q.* but you see the Decimal part makes it more; which of the two is the exacter?

*Inq.* Sir, I think I understand you, but lest I should be too confident, pray give me a Decimal part to set down in Pounds, Shillings, Pence, and Farthings, that I may have all the difficulties in it that can possibly arise.

*Ration.* Well then, give me the value of this Decimal part, 1.68948.

*Inq.* I will attempt it. And first for the 1 before the prick, I set down 1 *l.* Secondly, for the 6 after the prick, I should set down 12 *s.* but being a figure above 5 follows, namely 8. I set down 13 *s.* and taking 5 from 8, there remains 3, wherefore I seek 394 in my Table, but it being not there, the nearest is 396, against which stands 9 *d.* 2 *q.* which

I set down, and so is the Decimal 1.68948 reduced to 1 l. 13 s. 9 d. 2 q.

*Ration.* You have done it very right, and you understand the manner of working very well; only you may observe this one thing, which is not very material, that if the last figure of the number which you are to reject be 7, 8 or 9, you may add one to the figure going before, as in the example you last wrought, when you had set down your 1.13 s. there remained 3948, now being you are to reject the 8, add 1 to 394, and call it 395, which seek in the Table, the nearest to which is 396 as before; this you may observe if you will but you see it is to little purpose in this Case. —

And now Friends, I having first given you a Description of the Tables, and secondly the Construction of them, with the manner how to set any sum or number therein down both in Vulgar and Decimal numbers, (in which I have been the larger in this, for that in the other four Tables, I intend only to give you a general account of them.) It remaineth now that I shew you the general use of these Tables; but I think it now draws towards Noon, and I have held you over long from your more weighty affairs, and my self have some business which at present calls me away; but if you please to repair to me in the Morning, I will give you Answers of all your Questions, by which, you will perfectly understand the full use of all my five Tables.

*Ditif.* Sir, I give you many thanks for the great trouble I and my Friend have already put you to, and for the benefit which we shall receive by your Instructions, we shall hardly be able to make you any

any competent satisfaction; but ceasing further to trouble you at present, I shall bid you farewell.



*Questions Resolved by the first TABLE.*

*Ration.* **G**entlemen and Friends, you are welcome, I expected you an hour since, which time I have bestowed in turning over your Questions, and laying such together as concern the several Tables; and they being thus sorted, we will begin with those that concern the First Table, which I find to be these.

*Question I.*

*What will 500*l.* amount unto if it be forborn 4 years after the rate of 6 per Cent. compound Interest?*

Look in the first Table for 4 years, against which stands 1*l.* 5*s.* 3*d.* and this Decimal part 1.26247 which shews, that if 1*l.* be forborn 4 years, it will amount or be increased, to 1*l.* 5*s.* 3*d.* If so, then 500*l.* will be increased to 500 times 1*l.* 5*s.* 3*d.* and to know how much that is, you must

By Vulgar Arithmetick.

Turn 1*l.* 5*s.* 3*d.* into pence; by multiplying the pounds by 20, and the shillings by 12 (as in the following work you may see done) and they make 303 pence, which multiplying by 500*l.* (the  
sum

sum forborn) and it makes 151500 d. which turned into pounds sterling (by dividing it first by 12 and then by 20, it produceth 631 l. 5 s. as by the following work appears.

l. — s. — d.	
1      5      3	303
20	500
25 Shillings	151500
12	1111
53	3136
25	255500 (1262 (5 s. 631 l.
303 Pence	222222 2222
	1111

And so much will 500 l. amount unto being forborn 4 years, namely to 631 l. 5 s. Thus is the Question resolved by Vulgar Arithmetick: Now we will do it.

By the Decimal parts:

The Decimal standing against 4 years, in the Table, is 1.26247, which multiply by 500 (the sum forborn) and it produceth 63123500, from which if you cut off the five last figures towards your right hand, it will be 631.23500, which 631 are 631 l. and the 23500 reduced, maketh 4 s. 8 d. 2 q. So that 500 l. being forborn 4 years, will be increased unto 631 l. 4 s. 8 d. 2 q. as you may

may see by the Arithmetical operation following:

1.26247

500

631—4

8—2

638.23500

Differing from the other

3d. — 2q.

*Inq.* I understand the working by the Table already, both by Vulgar Arithmetick, and by the Decimal part, and do highly esteem of the Decimal parts, rather than the Vulgar way; for these two reasons. First, for that there is no need of reducing the money into its least denomination, by Multiplication, and then to reduce it back again to its greater by Division. And Secondly, because Division is wholly avoided, and one single Multiplication performs the work.

*Disf.* I understand the manner of working, both by the Vulgar numbers, and Decimal parts also, and (for the reasons you have given) do approve of the Decimals best. But Sir, before you proceed to another Question, I would gladly be satisfied in two particulars which I doubt of, and am unsatisfied in. — First, Why, when you multiplied the Decimal part 1.26247 by 503, you cut off (or separated by a point) five figures towards the right hand, neither more nor less. And — Secondly, How comes it to pass, that there is a difference of 3 d. 2 q. between the Vulgar, and the Decimal way?

*Ration.*

*Ration.* I will answer both your Objections immediately. And first, The reason why five figures only were cut off, is, because in the Decimal part, which was Multiplied (namely 1.26247) there were only five figures towards the right hand beyond the prick. — And secondly, the reason why the difference of 3 *d.* 2 *q.* did arise, was, because the Decimal part 1.26247 did not amount to full 1 *l.* 5 *s.* 3 *q.* but wanted thereof about the tenth part of a farthing. so that 3 *d.* was the nearest number that could be expressed in the Table.

*Dit.* I am satisfied well in both the particulars; wherefore be pleased to proceed to another Question.

### Question II.

*If 324 *l.* be forborn for the term of 18 years, what will it be increased unto after 6 per Cent?*

In the Table against 18 years, you shall find 2 *l.* 17 *s.* 1 *d.* which being reduced into pence, produceth 685 *d.* this multiplied by 324 *l.* produceth 221940 *d.* which reduced into shillings by dividing it by 12, giveth 18495 *s.* and thus divided by 20, giveth 924 *l.* 15 *s.* As by the Work appears.

So the  
amount

The D  
which r



( 33 )

21. — 17 s. — 12

20

17

4

57 Shillings

12

115

57

12

685 Pence.

324

2740

1370

2055

221940

xxxx

xxxxx

xxxxx

xxxxx

xxxxx

(15)

(18495)

(1)

(s)

924-15-0

So that 324 l. being forborn 18 years, will amount unto 924 l. 15 s.

By the Decimal part thus,

The Decimal part against 18 years, is 2.85434, which multiplied by 324 l. produceth this number

D

ber

ber, 92480616, from w<sup>h</sup> cutting off 5 figures towards the right hand, and there is 924 l and 80616 parts, which reduced makes 16 s 1 d 2 q. in all, 924 l. 16 s. 1 d. 2 q. And so much will 324 l. be encreased unto in 18 years, as by the work appears.

$$\begin{array}{r}
 2.85434 \\
 \underline{3.24} \\
 \hline
 1141736 \\
 570868 \\
 856302 \\
 \hline
 924.80616
 \end{array}
 \quad
 \begin{array}{r}
 111s. d. q. \\
 924 \quad 16 \quad 1 \\
 288 \\
 456
 \end{array}$$

This differs from the Vulgar 1 s. 1 d. 2 q. which difference doth arise for that the decimal fraction 285434 did amount to something more than 2 l. 17 s. 1 d. by about one tenth of a farthing.

### Question III.

If 136 l. 15 s. 6 d. should be forborn the term of 20 years, what would it amount unto at the end of that term, at 6 per Cent.

I. By Vulgar Arithmetick.

The number in the Table standing against 20 years, is 3 l. 4 s. 1 d. 3 q. which reduced into farthings, makes 3079 farthings. Also reduce 136 l. 15 s. 6 d. (the sum forborn) into pence, and it maketh 32826 pence. Multiply 32826 pence by 3079



*Inq.* Here is a great deal of work in doing of this by Vulgar Arithmetick. If you please, I will see whether I can do it in Decimals.

*Ration.* Willingly.

*Inq.* Then I begin thus. The Decimal against 20 years in the Table, is 3.20713, then to bring 136 l. 15 s. 6 d. into a Decimal, I first set down 136 with a prick after it, then for the 15 s. I set down 7 after the prick; then I look in my Table of Reduction for 6 d. against which I find 250, to which add 500 for the odd shilling (for 7 signifies but 14 s.) and it makes 750 (or omitting the Cypher) 75. So is my decimal part for 136 l. 15 s. 6 d. 136.775, by which multiply 3.20713, and the product is 43865520575, from which I cut off 8 figures towards the right hand (because in the multiplicand, namely in 3.20713, there are 5 figures after the prick, and in the multiplier 136.775, there are three figures after the prick, which together are 8 figures.) So I have 438 l. and 655 remain, for the 6, I set down 12 s. but 5 following it, I set down 13 s. so there is remaining 055, which in my Table of Reduction is in value equal to 1 d. 1 q. so that my Decimal thus reduced is 438 l. 13 s. 1 d. 1 q. And so much will 136 l. 15 s. 6 d. amount unto, if forborn 20 years, which differs from the ormer by Vulgar Arithmetick only 5 d. 1 q.

3.20713  
 136.775

1603565

2244991

2244991

1924278

962139

320713

438.655.20575

438 l. — 13 s. — 1 d. — 1 q.

*Ration.* You have resolved this Question in the Decimal way so exactly in every particular thereof, that I think you able to resolve any other; wherefore in those which follow we will omit the Arithmetical work, being you already so well understand it.

*Disif.* I think Sir you may save that labour, for what is hitherto done I perfectly understand.

*Ration.* Well then I will proceed to another of your Questions.

### Question IV.

*What Sum of Money must that be, which if it be forborn 5 years, will amount or be increased to 50 l?*

The Sum which 1 l. will amount unto in 5 years, is 1 l. 6 s. 9 d. which reduced into pence, is 321 d; then reduce 50 l. into pence also, & it makes 12000 d. Divide 12000 by 321, and you shall have in the

D 3

Quot.

(58)

tient 37*l* and  $\frac{1}{3}\frac{2}{3}$  parts of a pound, which reduced, is 7*s*. 8*d* *fers*. And that sum 37*l*. 7*s*. 8*d*. being forborne 5 years, will amount to 50*l*.

*By Decimals it is thus done.*

To 50*l*. add what number of Cyphers you please, at 9, making it 50.00000000. divide this number by 133822, the Decimal standing against 5 years, and you shall have in your Quotient 37.3835, which reduced, is 37*l*. 7*s*. 8*d*. as before.

*Question V.*

*A Father dying, leaves in the hands of a friend 235*l*. as a Portion for his Son, when he comes of Age (who wants 13 years of 21) to receive the Stock and Profit thereof after the rate of 6 per Cent. Compound Interest; what Sum of Money must the Orphan receive at his Age of 21 years?*

In the Table against 13 years, you shall find 3*l*. 2*s*. 7*d*. 3*q*. which reduced into farthings, is 2044, which multiplied by 235, produceth 480340 farthings, which reduced is 500*l*. 7*s*. 11*d*.

*By Decimals.*

Multiply 213292, the Decimal belonging to 13 years by 325 (the Portion) and the Product, is 50123620, which is 501*l*. 4*s*. 8*d*. 2*q*. and so much must the Orphan receive when he comes of Age.

*Inq.* This differs very much from the former, namely 17*s*. 7*d*. 2*q*.

*Ration.* This difference ariseth from the parts of a farthing in the Decimal; for the Decimal 2.13292 is in strictness 2*l*. 2*s*. 7*d*. 3*q*.  $\frac{1}{2}$  farthing, or thereabout, which will make up the 17*s*. 7*d*. 2*q*. but no nearer number could be set in the Table. *Quest.*



What will 100 l. amount unto, if it be forborn 5 years and three months?

In the Solution of this and the like Questions, there is something more trouble than in the former in respect of the parts of a year. Wherefore in this or the like Question, take the Decimal for the longest term allowed (as here for 5 years) which is 1.33822. this multiply by the principal lent, (namely 100 l.) and it makes 133.82200, (but you may omit the two Cyphers, and cut off two figures less,) this multiply by 1.91467, the Decimal for 3 months, and it produceth 135.7851687400, from which ten figures being cut off, or 8 figures besides the two Cyphers, there is left 135 l. and 78 s. 14 d. part of a Pound, which is 155.84 1/4. So that the increase of 100 l. in 5 years and a quarter will amount unto 135 l. 55 s. 84 1/4.

The Work in Decimals.

133822000											
101467											
-----											
936754000											
802932000											
535288000											
133822000											
133822000											
-----											
135.7851687400											
135 l. — 15 s. — 8 d. — 1 q.											
D 4											
Inq.											

*Inq.* There is much more work in this, than in any of the other before-going; but I perceive it is occasioned by the odd 3 months.

*Ration.* It is so indeed, and the more parts of a year you have, the more multiplication you will have, as you shall see in the next of your Questions, which is all that concerns this First Table.

### Question VII.

*Unto what will 532 l. amount, if it be forborn 12 years, 5 months, and 1 week?*

Take the Decimal belonging to the longest time, namely 12 years, which is 2.01219; which multiply by 532 the principal Sum, and it produceth 1070.448500, the increase of 532 l. in 12 years; Then multiply this increase by 1.02557, (the Decimal belonging to 5 months) and it produceth 1069.7868984156, the increase of 532 l. for 12 years and 5 months. Again multiply this increase by 1.00112 (the Decimal belonging to 1 Week) & it produceth 1098.015299741825472, which is the increase of 532 l. for 12 years, 5 months, and one week, which reduced is 1098 l. 0 s. 3 d. 3 q.

The

*The Arithmetical Work,*

201219

532

402438

603657

1006095

For 107048508--12 Years.

102457

749339556

535242540

428194032

214097016

1070485080

For 10965868984156 } 12 Years.

100112 } 5 Months

21935737968312

10967868984156

10967868984156

1096786898415600

F. 1098015299741825472 } 12 Years.  
 } 5 Months  
 } 1 Week.

*Ration.* Thus have you an answer of all your Questions that are resolvable by my first Table; I will now come to those appertaining to the Second.

The

### The second Table.

Declaring what any Sum of Money, being for-  
born any number of Days, Weeks, Months,  
or Years, under 31, is worth in ready money,  
rebating or discounting yearly after the rate  
of 6 per Cent. per An. Compound Interest.

l. s. d. q.					Decimal parts.	Year.	l. s. d. q.					Decimal parts.
Days.						1	0	18	10	2	94339	
						2	0	17	9	2	88999	
						3	0	16	9	2	83962	
1	0	19	11	3	99984	4	0	15	10	0	79209	
2	0	19	11	3	99968	5	0	14	11	1	74726	
3	0	19	11	3	99952	6	0	14	1	1	70496	
4	0	19	11	3	99936	7	0	13	3	2	66506	
5	0	19	11	3	99920	8	0	12	6	2	62741	
6	0	19	11	3	99904	9	0	11	10	0	59190	
Weeks.						10	0	11	2	0	55839	
						11	0	10	6	2	52678	
						12	0	9	11	1	49697	
1	0	19	11	3	99888	13	0	9	4	2	46884	
2	0	19	11	2	99776	14	0	8	10	0	44230	
3	0	19	11	1	99665	15	0	8	4	1	41726	
Months.						16	0	7	10	2	39365	
						17	0	7	5	0	37136	
1	0	19	10	3	99515	18	0	6	0	0	35034	
2	0	19	9	2	99233	19	0	6	7	1	33051	
3	0	19	8	2	98553	20	0	6	2	3	31180	
4	0	19	7	1	98076	21	0	5	10	2	29415	
5	0	19	6	1	97601	22	0	5	6	2	27750	
6	0	19	5	0	97128	23	0	5	2	3	26180	
7	0	19	4	0	96658	24	0	4	11	1	24698	
8	0	19	2	3	96186	25	0	4	7	3	23300	
9	0	19	1	3	95724	26	0	4	4	3	21981	
10	1	19	0	2	95264	27	0	4	1	3	20737	
11	1	18	11	2	94799	28	0	3	11	0	19563	
						29	0	3	9	1	18453	
						30	0	3	5	3	17411	

that I shew how it is to be done for the Decimals parts only.



*A Description of this TABLE.*

**Ration.** This Table consisteth of the same parts as did the former, viz. of *Days, Weeks, Months, and Years*, and the Sums of Money, and Decimal parts, have the like use, they differing only in this. That the other shewed, *What One Pound being forborn any number of Days, Weeks, Months, or Years, would be augmented or increased unto*; This shews, *What One Pound becoming due any Days, Weeks, Months or Years to come is worth in ready money.*

As the first Table shews, One pound now due being forborn a year, would increase to *1 l. 1 s. 2 d. 2 q.* So this shews, that if one pound or *20 s.* becoming due a year hence, will be worth now in ready money *1 l. 8 s. 10 d. 2 q.*

**Inq.** This description is sufficient, and I well apprehend it.

**Ans.** So do I, but how is it framed?

**Ration.** That I will now declare.

*The Construction of this TABLE.*

**Ration.** In the former Table I gave you the Analogue or Proportion both in Vulgar and Decimal numbers: but (you understanding the difference so well by what hath been delivered so largely in the former) I count it unnecessary to declare them both again in this place; wherefore let it

satisfy





Then for the second year say,

As 106

Is to .94339 the first years decrease;

So is 100

To .88999 the second years decrease.

As 106 — .94339 — 100

100

— .94339 — 100

\* \* \* \* \*  
 \* \* \* \* \* ( 6 ) . 8 8 9 9 9  
 \* \* \* \* \*  
 \* \* \* \* \*  
 \* \* \* \* \*

And so of all the rest.

*Inq.* This is sufficient, and the reason of the Construction is very apparent.

*Disif.* The Composition of these two Tables being so like, there is sure no great difference in their use of this more than in the other.

*Ration.* Very little or none, as by your Questions answering will appear; which now we will fall to.

*Questions resolved by the second Table.*

*Inq.* Before you begin Sir, it will be necessary to answer the Questions in one kind of Numbers, either Vulgar

Vulgar or Decimal, which you please; and for ease and exactness, I sh<sup>d</sup>. rather chuse the later.

*Disif.* The Decimal parts are far more convenient in every respect.

*Ration.* I will keep to those only then.

*Question.* What is 356 l. due at the end of 7 years, <sup>movable</sup> ready money, rebating or discounting after 6 per Cent. Compound Interest?

The Decimal standing against 7 years, is .66506 which multiply by 356 the principal Sum, the product will be 236.76136, which reduced into Coyn Sterling, is 236<sup>l</sup>. 15<sup>s</sup>. 2<sup>d</sup>. 3<sup>q</sup>. and so much is 356 l. payable at the end of 7 years worth in present money.

### The Work in Decimals.

$$\begin{array}{r} .66506 \\ 356 \\ \hline \end{array}$$

$$399036$$

$$332530$$

$$199518$$

$$236.76136 \text{ Or } 236 \text{ l. } 15 \text{ s. } 2 \text{ d. } 3 \text{ q.}$$

### Question X.

If 536 l. 12 s. 9 d. be due at 9 months, what is it worth in ready money, rebating after 6 per Cent. Compound interest?

First reduce 536 l. 12 s. 9 d. into a Decimal Fraction or Parr, thus. For the 536 l. set down

$$536$$

536, and for your 12 s. let down 6, then look in your Table of Reduction for 9 d. against which stands 375, these set together make 536.6357 the Decimal part of 536 l. 12 s. 9 d. multiply this by .95724, the Decimal part belonging to 9 months, and the product will be 513.689157468, from which cut off 9 figures, and there will be 513 l. 13 s. 11 d. 3 q. and so much is 536 l. 12 s. 9 d. payable 9 months hence; worth in present money; 536.6357 Decimal of 536 l. 12 s. 9 d.

$$\begin{array}{r} 536.6357 \\ \times .95724 \\ \hline \end{array}$$

$$\begin{array}{r} 21465428 \\ 10732714 \\ 37564499 \\ 26831785 \\ 48297213 \\ \hline \end{array}$$

513.689157468 Or, 513 l. 13 s. 11 d. 3 q.

### Question XI.

There is a Lease in Mortgage for 5 years; which (were the Mortgage off) is really worth 950 l. what is the reversion thereof worth in present money?

*Ing.* This (I conceive) is no other than if the Question were thus stated. What is 950 l. due 5 years hence worth in ready money?

*Ration.* It is the same, and must be answered by the same Table, and the same way of working.

*Ing.* Then I will see if I can resolve it by your Table. And first, I seek the Decimal for 5 years, which

which is 74726, which I multiply by 950 l. the value of the Lease, and it produceth 709.89700; from which cut off 5 figures, and there will be 709 l. and .89700 remaining, which reduced is 17s. 11d. 1q. in all 709 l. 17s. 11d. 1q. And so much is the Lease in reversion worth in ready money.

$$\begin{array}{r}
 74726 \\
 \times 950 \\
 \hline
 3736300 \\
 672534 \\
 \hline
 70989700
 \end{array}$$

709 l. — 17 s. — 11 d. — 1 q.

*Question XII.*

*There is a Legacy of 200 l. to be paid in 4 years time, at four equal payments, namely 50 l. at 3 months, 50 more at 6 months, a third 50 l. at 9 month, and the fourth and last 50 l. at a year. The Legatee desires to have all his money presently, and is willing to discount therefore after the rate of 6 per Cent. Compound Interest; what present money must he receive in full satisfaction of his Legacy?*

For the solution of this, take the Decimal of 3 months, which is .98553, and multiply it by 50 l. the first payment due at 3 months, and it makes 49.27650, which set down by it self, as here you see done, and the value thereof in money by it, which is 49 l. 5 s. 6 d. 1 q. — Then take the Decimal for 6 months, which is .97128, and multiply

multiply that by 50, the second payment at 6 months,  
and it maketh 48.56400, which reduced is 48 l.  
1 s. 3 d. 2 q. Set this down under the former

		l.	s.	d.	q.
3 Months.	49.27650	49	5	6	1
6 Months.	48.56400	48	11	3	2
9 Months.	47.86200	47	17	3	0
A Year.	47.16950	47	3	4	3

---

192.87200 | 192—17—5—2

---

Thirdly, Take the Decimal belonging to 9 months,  
viz. .9572, and multiply it by 50, the third pay-  
ment, it produceth 47.86200, which reduced, is  
47 l. 17 s. 3 d. which set down also. Lastly, Mul-  
tiply .94339 the Decimal for a year, by 50, the  
last payment, and it giveth 47.16950, which in  
money is 47 l. 3 s. 4 d. 3 q. Set this to the rest, and  
add them together, and the Sum of all will be  
192 l. 17 s. 5 d. 2 q. and so much will discharge  
the Legacy at one entire payment.

If you add all the Decimal parts together, the  
Sum of them is 192.87200, which reduced, is  
192 l. 17 s. 5 d. 2 q. fere.

The Third  
**T A B L E,**  
S H E W I N G

What an Annuity, Rent, or Pension, to be paid  
yearly, will amount unto, the same be-  
ing forborn any number of Years  
under 31, at 6 per Cent. per  
Ann. Compound Interest.

Years	l. s. d. q.	Decimal parts.	Years	l. s. d. q.	Decimal parts.
1	1 0 0 0	1.00000	16	25 13 5 2	25.67252
2	2 0 0 0	2.00000	17	28 4 3 0	28.21287
3	3 0 0 0	3.00000	18	30 18 1 1	30.90569
4	4 0 0 0	4.00000	19	33 15 2 0	33.75999
5	5 0 0 0	5.00000	20	36 15 8 2	36.78559
6	6 0 0 0	6.00000	21	39 19 10 1	39.99272
7	7 0 0 0	7.00000	22	43 7 10 0	43.39228
8	8 0 0 0	8.00000	23	46 19 11 0	46.99582
9	9 0 0 0	9.00000	24	50 16 3 3	50.81597
10	10 0 0 0	10.00000	25	54 17 18 2	54.86481
11	11 0 0 0	11.00000	26	59 3 1 2	59.15638
12	12 0 0 0	12.00000	27	60 14 1 1	60.70576
13	13 0 0 0	13.00000	28	69 10 6 3	68.52810
14	14 0 0 0	14.00000	29	72 12 9 2	73.63979
15	15 0 0 0	15.00000	30	79 1 1 3	79.05818



*A Description of this, and the following  
TABLES.*

*Ration.* **T**He three Tables following are not calculated to Days, Weeks, Months, and Years, as were the two former, but to Years only; beginning at 1 Year, and so continuing to 31 Years, having the Vulgar number of Pounds, Shillings and Pence in one Column, and the Decimal parts answerable thereunto in the next Column adjoining.

And as the first Table shewed what any Sum of money being forborn any number of Years, would increase unto in that time; This shews, *What any Annuity, Rent, Pension, &c. being forborn any number of Years, will amount unto.*

*Inquil.* Concerning the Description of these Tables, I am satisfied; but how are they made?

*Of the Construction of these TABLES.*

*Ration.* Concerning the Construction of this, and the following Tables, I shall say little, they being not composed by any general Analogie (as the other were) but derivative from them, as by the Tables themselves, and the uses to which they are applyed, you may easily discover: wherefore waving the Construction, I will now shew the use of them in resolving your Questions: and those relating to this third Table, are these following.

E 1

*Questions*

*Questions Resolved by the Third TABLE.**Question XIII.*

If an Annuity of 20 l. payable Yearly, be forborn the term of 12 Years, what will it augment unto in all that time, counting Interest upon Interest at 6 per Cent.

Multiply 16.86994 (the Decimal standing against 12 Years) by 20 l. the yearly revenue, and it produceth 337.39880, which reduced is 337 l. 7 s. 11 d. 3 q. and to so much will the Annuity be increased to, it being the whole term of 12 Years forborn.

*Question XIV.*

If an Annuity or Rent of 7 l. 6 s. 3 d. to be paid yearly, be in arrear, or unpaid, for 8 years, unto what will it be increased in that time, counting Interest upon Interest at 6 per Cent.

Reduce the 7 l. 6 s. 3 d. into a Decimal, it makes 7.3125, by this Decimal part multiply 9.89747

the Decimal standing against

9.89747 8 years, and the product will

7.3125 be 72.375249375, which

4948735 Decimal reduced ( nine fi-

1979494 gures being first cut off) is e-

989747 qual to 72 l. 7 s. 6 d. and

2969241 to so much will the Rent of

6928229 7 l. 6 s. 3 d. be increased, if

forborn 8 years.

72.375249375

*Question*

## Question XV.

A is to pay unto B a Legacy of 280 l. entire, at the expiration of 4 years. A supposing himself not likely to be in a capacity of paying so great a Sum together, agrees to assign unto B a Lease of 65 l. a year, till the said term of 4 years were expired, in full satisfaction of 280 l. A was then to pay unto B: who gained, or lost by this bargain? and what?

Seek in the Table for the Decimal belonging to 4 years (the time the Legacy is to be paid at, and also the time that the Lease is assigned for) and you shall find it to be 4.37461, which multiply by 65 (the annual Rent that B was to receive for 4 years) and the product is 284.34965, which reduced into money, is 284 l. 7 s. 6 d. from which subtract 280 l. the remainder is 4 l. 7 s. So that B gained of 4 l. 7 s. by the bargain.

# The Fourth TABLE

## SHEWING

What any Annuity, Rent, or Pension, being for-  
born any number of years under 31, Rebating  
or Discounting yearly after the rate  
of 6 per Cent. Compound In-  
terest, is worth in Ready  
Money.

Years	l.	s.	d.	q.	Decimal parts.	Years	l.	s.	d.	q.	Decimal parts.
1	0	18	10	2	0.94340	16	10	2	1	1	10.10589
2	1	16	8	0	1.83339	17	10	9	6	2	10.47725
3	2	13	5	2	2.67301	18	11	16	6	2	10.82760
4	3	9	3	2	3.46510	19	11	3	2	0	11.15811
5	4	4	3	0	4.21236	20	11	9	4	3	11.46992
6	4	18	4	1	4.91732	21	12	15	3	1	11.76405
7	5	11	7	3	5.58238	22	12	0	10	0	12.04158
8	6	4	2	1	6.20979	23	12	6	0	3	12.30337
9	6	16	0	1	6.80169	24	12	11	0	0	12.55035
10	7	7	2	1	7.36008	25	13	15	8	0	12.78335
11	7	17	8	3	7.88687	26	13	0	0	3	13.00316
12	8	7	8	0	8.38384	27	13	4	2	2	13.21053
13	8	17	0	2	8.85268	28	13	8	1	2	13.40616
14	9	5	1	3	9.29498	29	13	11	9	3	13.59071
15	9	14	30	0	9.71224	30	13	15	3	2	13.76482

Quest.

*Questions Resolved by the Fourth TABLE.**Question XVI.*

*What is the Lease of an Annual Rent of 25 l. payable yearly for 21 years to come, worth in present money, at 6 per Cent.*

Look in the Table for the Decimal part belonging to 21 years, which is 11.76405, which multiply by 25 l. the Annual Rent, the product thereof is 294.07625, which reduced into money is 294 l. 1 s. 6 d. 1 q. and so much is the Lease worth in present money.

*Question XVII.*

*What is an Annuity, Rent, or Pension of 25 l. per An. payable yearly for 30 years to come, worth in present money?*

The Decimal belonging to 30 years is 13.76482, this multiplied by 75 l. the Annual Rent, yieldeth in the product 1032.36150, from which, five figures being cut off, and the Decimal reduced, giveth 1032 l. 7 s. 2 d. 3 q. and so much is the Lease or Annuity of 75 l. for 30 years, worth in ready money.

13.76482

75

6882410

9635374

1032.36150

Or 1032 l. 7 s. 2 d. 3 q.

E 4

Quest.

## Question XVIII.

A hath a Lease of a house of 75 l. a year; to be paid yearly, he desires to borrow of his Tenant in possession so much money as will countervalue his Rent for 5 years, and for it he will allow him after the rate of 6 per Cent. Compound Interest; What Sum of money must he receive for his 5 years.

Look in the Table for the Decimal belonging to 5 years, which is 4.21336, which multiply by 75 l. the Annual Rent, and the product will be 315.92700, which reduced is 315 l. 18 s. 6 d. 2 q. and so much money may he lend him to countervalue his 5 years, and he have 6 l. per Cent. Compound Interest for his money all that time.

$$\begin{array}{r}
 4.21236 \\
 \times 75 \\
 \hline
 2106180 \\
 2948652 \\
 \hline
 315.92700
 \end{array}$$

## Question XIX.

A Tenant hath a Lease of a house for 30 years; for the first 10 years he is to pay 20 l. a year, and for the remaining 20 years he is to pay 20 l. a year; What is this Lease worth in ready money, discounting Interest at 6 per Cent.

Look in the Table for the Decimal belonging to 30 years, which is 13.76482, which multiply by 20 l.



20 l. (the Annual Rent for the whole time ) the product is 271.81420, which reduced, is 271 l. 16 s. 3 d. 2 q. and so much had the Lease been worth for the whole term of 30 years at 20 l. per annum.

But forasmuch as the first 10 years of the 30, pays but 15 l. a year, which is 5 l. less, therefore look the Decimal belonging to 10 years, which is 7.36008, and multiply it by 5 l. (the abatement of the first 10 years Rent) and the product will be 3680040, which reduced into money is 36 l. 16 s. this subtracted from the former 271 l. 16 s. 3 d. 2 q. leaveth 235 l. 0 s. 3 d. 2 q. and so much is the Lease worth in present money.

13.59071

7.36008

20

5

271.81420

36.80040

l. s. d. q.

l. s. d. q.

271 16 3 2

36 16 0 0

l. s. d. q.

271 16 3 2

36 16 0 0

235 00 3 2

## Question XX.

If a Lease for 21 years be to be let for 30 l. a year and 100 l. Fine ; What Fine must be given to bring the Rent down to 10 l. a year, rebating after the rate of 6 per Cent.

The

The difference between the Rent demanded (*viz.* 30*l.*) and the Rent desired (*viz.* 10*l.*) is 20*l.*

Find therefore what 20*l.* a year for 21 years is worth in present money, which to do, multiply 11.76415 (the Decimal belonging to 21 years) by 20*l.* (the Rent to be abated) and the product will be 235.28100, which reduced into money is 235*l.* 5*s.* 7*d.* 2*q.* and so much is 20*l.* a year worth in present money; to which add the 100*l.* Fine demanded, and it makes 335*l.* 5*s.* 7*d.* 2*q.* and such Fine must be paid to bring the Rent down to 10*l.* a year for the whole 21 years.

### Question XXI.

*Which is worth most in present money, A Lease of 16*l.* a year to continue 25 years, Or a Lease of 32*l.* a year to continue 12 years?*

Find in the Table the Decimal belonging to 25 years, which is, 12.78335, which multiply by 16*l.* the Annual Rent, and it produceth 204.53300, which reduced is 204*l.* 10*s.* 8*d.* The worth of the Lease for 25 years at 16*l.* a year.

Then for the other Lease of 32*l.* a year to continue 12 years; Seek the Decimal belonging to 12 years, which is 8.38384, and multiply it by 32 the Annual Rent, it produceth 268.28288, which reduced is 268*l.* 5*s.* 7*d.* 3*q.* the true worth of the Lease of 32*l.* a year for 12 years. As by the Work appears.

12.78335

12.78335

16

8.38384

32

7670010

1278335

1676768

2515152

204.53360

168.28288

l. s. d. q.

l. s. d. q.

204 10 8 0

268 5 7 3

Worth of a Lease of 32 l. } l. s. d. q.  
 for 12 years. ———— } 268 5 7 3

Worth of a Lease of 16 l. }  
 for 25 years ———— } 204 10 8 0

The difference 263 14 11 3

The

# The Fifth T A B L E, S H E W E T H

What Annuity, Rent, or Pension, payable yearly, any Sum of Money will purchase for any number of years under 31, accounting Interest upon Interest at 6 per Cent. per Ann.

<i>Tears</i>	<i>l.</i>	<i>s.</i>	<i>d.</i>	<i>q.</i>	<i>Decimal parts.</i>	<i>Tears</i>	<i>l.</i>	<i>s.</i>	<i>d.</i>	<i>q.</i>	<i>Decimal parts.</i>
1	1	1	2	2	1.06000	160	1	11	3		.09895
2	0	10	11	0	.54544	170	1	10	3		.09544
3	0	7	5	3	.37411	180	1	10	1		.09235
4	0	5	9	1	.28859	190	1	9	2		.08962
5	0	4	9	0	.23739	200	1	8	3		.08718
6	0	4	0	3	.20336	210	1	8	1		.08500
7	0	3	7	0	.17913	220	1	7	3		.08304
8	0	3	2	2	.16103	230	1	7	2		.08127
9	0	2	11	1	.14702	240	1	7	1		.07967
10	0	2	8	2	.13586	250	1	6	3		.07822
11	0	2	6	2	.12679	260	1	6	2		.07699
12	0	2	4	3	.11926	270	1	6	1		.07569
13	0	2	3	0	.11297	280	1	6	0		.07459
14	0	2	1	3	.10758	290	1	5	3		.07357
15	0	2	0	3	.10296	300	1	5	2		.07264

*Quest.*

*Questions Resolved by the Fifth TABLE.**Question XXII.*

*What Rent or Annuity to begin presently, and to continue 28 years, will 640 l. purchase, accounting Compound Interest after 6 per Cent.*

Look in your Table for the Decimal belonging to 28 years (the time of the continuance of the Annuity) which you shall find to be .07459, multiply this Decimal by 640 l. (the money to be laid out upon the purchase) and the product will be 47.73760, which reduced, maketh in money 47 l. 14 s. 9 d. and such an Annuity or Rent will 640 l. purchase for 28 years.

*Question XXIII.*

*What Rent or Annuity will 532 l. 16 s. 8 d. purchase presently, and so continue for 11 years, allowing 6 per Cent. Compound Interest?*

Look in the Table for 11 years, the Decimal thereunto belonging is .12679, then reduce your 532 l. 16 s. 8 d. into a Decimal, and it is 532.8333, which multiply by .12679 (the Decimal belonging to 11 years) and the product will be 67.557934107, from which cut off 9 figures, and reduce the Decimal into money, and it will be 67 l. 11 s. 1 d. 3 q. and such a Rent or Annuity will 532 l. 16 s. 8 d. purchase for 11 years.

$$\begin{array}{r}
 532.8333 \\
 \times .12679 \\
 \hline
 47954997 \\
 37298331 \\
 31969998 \\
 10656666 \\
 5328333 \\
 \hline
 67.557934107
 \end{array}$$

*Quest.*

*Question XXIV.*

There was 120 l. Fine, and 10 l. a Year, given for the Lease of a House for 13 years; what was the value of the yearly Rent rated at, money being at 6 per Cent.

You must first find what Annuity 123 l. will purchase for 13 years, which you may find by multiplying .11297 (the Decimal belonging to 13 years) by 120 l. (the Fine) the product whereof will be 13.55640, which reduced is 13 l. 11 s. 1 d. 2 q. and such an Annuity or Rent will 120 l. purchase, to which the 10 l. a year which was Annually paid, being added, it makes 23 l. 11 s. 1 d. 2 q. and such Annual Rent doth it stand the Lesser in for his 13 years.

*Question XXV.*

There is 250 l. Fine, and 20 l. a Year required for a Lease of a House for 21 years. The Tenant is willing to give 100 l. Fine, and an increase of Rent answerable to the abatement of the Fine, what Rent must be advanced, and what Rent must he pay in all?

First find what Annuity 250 l. will purchase for 21 years, by multiplying .08500 (the Decimal belonging to 21 years) by 250 l. (the Fine demanded) and it makes 21.25000, which reduced is 21 l. 5 s. to which add 20 l. the Annual-Rent, and it maketh 41 l. 5 s. a year, the worth of the house yearly without a Fine.

Then for the 100 l. which the Tenant is willing to pay, what Rent must be deducted for that find there-



therefore what Annuity to continue 21 years ; 100 *l.* will purchase ; multiply .08500 (the Decimal belonging to 21 years) by 100 *l.* (the Fine offered ) and it makes 0850000, from which cut off 5 figures, and there is 08, 50000, which reduced is 8 *l.* 10 *s.* wherefore take 8 *l.* 10 *s.* out of 41 *l.* for the full Rent without a Fine, and there will remain 32 *l.* 15 *s.* and so much Annual Rent must he pay besides his 100 *l.* Fine.

*Inq.* I conceive Sir that this might have been answered at one working in this manner.

Subtract 100 *l.* (the Fine offered) from 250 *l.* (the Fine demanded) the difference is 150 *l.* then find what Annuity 150 *l.* will purchase for 21 years, by multiplying .08500 (the Decimal of 21 years) by 150 *l.* (the difference of the Fines) and it makes 12,75000, which reduced is 12 *l.* 15 *s.* this added to the 20 *l.* Rent demanded, makes 32 *l.* 15 *s.* exactly agreeing with yours, and I think the work somewhat shorter.

*Ration.* You have well considered the nature of the Question, and wrought it the neatest way, and seeing you are so perfect, and all your Questions being at an end, I think it time to break off.

*Inq.* Of what singular use and benefit are these Tables to most men? but for those that understand not Arithmetick, they will appear difficult: wherefore if the Arithmetical work might be reduced to some easie form, they would then be much more advantagious.

*Ration.* For that, here followeth a large Table ready calculated, that he that can but Add and Subtract, may perform any of the Arithmetical work required in this Book.

*Inq.*

*Inq.* Some such a Table will render the work very easie indeed.

*Ration.* Such a Table I have by me, the which will not only perform the Arithmetical Work required in the use of the fore-going *Five Tables*, but also some other good and useful *Questions* (as will come in use among *Builders and Workmen*) may be resolved by it.

*Disif.* Then such a Table, nothing can render the Work more easie.

*Ration.* I tell you that such a Table I have by me, and of it, and its use, you shall participate — But now it comes into my mind, it is a Customary way, for *Buyers and Sellers, Mortgagers and Borrowers*, to enquire or value how many *Years* *Purchase* any *Lease* or *Annuity* for any Number of *Years*, or for the *Ecc-Simple* thereof, is worth, in ready Money.

*Disif.* That is a usual way of Bargaining indeed; but how shall I know that by the former *Tables*?

*Ration.* The former *Tables* will resolve such like *Questions*, but not so readily as by a short Table which I have Calculated for that very purpose: And it is not Calculated for the Rate of 6*l.* in the Hundred only (as the former *Tables* are) but for 5*l.* 6*l.* 8*l.* and 10*l.* in the Hundred Compound Interest, also.

*Inq.* That Table will be of singular use indeed, and I could wish to see and understand the same, but our trouble hath been so great already, that (in modesty) we can request no more from you.

*Ration.*

*Inqui. Disf.* We are obliged to you beyond measure.

*Ration.* This is the *Table*; and some of the  
(many) Uses of it you shall have by *Ex-*  
*amples.*

[illegible]

*A Table shewing what Number of Years, Quarters of Years, and Months; the Lease, Rent, or Annuity of any House, Land, or Pension, is worth in ready Money; at 5, 6, 8, and 10 per Cent Compound Interest; from one Year to 100 Years.*

*The Value of the Purchase, in Years, Quarters and Months.*

At V.	per Cent.		
Ye.	Ye.	Qu.	Mo.
1	0	3	2
2	1	3	1
3	2	3	0
4	3	2	1
5	4	1	1
6	5	0	1
7	5	3	0
8	6	2	0
9	7	0	1
10	7	3	0
11	8	1	1
12	8	3	1
13	9	1	2
14	9	2	2
15	10	1	2
16	10	3	0
17	11	1	0
18	11	2	1
19	12	0	1
20	12	1	2
21	12	3	1
22	13	0	0
23	13	1	0
24	13	2	2
25	14	0	1
26	14	1	0
27	14	2	2
28	14	3	2
29	15	0	2
30	15	1	2
31	15	2	4
41	17	0	1
51	18	1	0
61	18	3	2
71	19	1	1
81	19	2	1
91	19	3	0
Fee sim.	20	0	0

*The Number of Years to be Purchased*

At VI.	per Cent.		
Ye.	Ye.	Qu.	Mo.
1	0	3	1
2	1	3	2
3	2	2	2
4	3	2	0
5	4	1	0
6	4	3	2
7	5	2	1
8	6	0	2
9	6	3	1
10	7	1	1
11	7	3	2
12	8	1	2
13	8	3	1
14	9	1	2
15	9	3	0
16	10	0	0
17	10	2	0
18	10	3	1
19	11	0	2
20	11	1	2
21	11	3	0
22	12	0	0
23	12	1	1
24	12	2	0
25	12	3	0
26	13	0	0
27	13	1	2
28	13	1	3
29	13	2	1
30	13	3	0
31	13	3	2
41	15	0	1
51	15	3	0
61	16	1	0
71	16	3	0
81	16	2	0
91	16	2	1
Fee sim.	16	2	2

*The Number of Years to be Purchased.*

*A Table shewing what Number of Years, Quarters of Years, and Months the Lease, Rent, or Annuity of any House, Land, or Pension; is worth in ready Money at 5, 6, 8 and 10 per Cent. Compound Interest; from 1 Year to 100 Years.*

*The Value of the Purchase in Years, Quarters, and Months.*

At VIII.	per Cent.		
Yr.	Yr.	Qu.	Mo.
1	0	3	1
2	1	3	0
3	2	2	1
4	3	1	1
5	4	0	0
6	4	2	1
7	5	0	2
8	5	3	0
9	6	1	0
10	6	3	0
11	7	0	2
12	7	1	1
13	7	3	2
14	8	0	2
15	8	2	1
16	8	3	0
17	9	0	1
18	9	1	0
19	9	2	1
20	9	3	0
21	10	0	0
22	10	0	2
23	10	1	1
24	10	2	0
25	10	2	2
26	10	3	0
27	10	3	2
28	11	0	0
29	11	0	2
30	11	1	0
31	11	1	1
41	11	3	2
51	12	1	0
61	12	1	1
71	12	1	2
81	12	2	0
91	12	2	0
Fee. fm.	12	2	0

*The Number of Years to be purchased*

At X.	per Cent		
Yr.	Yr.	Qu.	Mo.
1	0	3	1
2	1	3	0
3	2	2	0
4	3	0	2
5	3	3	0
6	4	1	1
7	4	3	2
8	5	1	1
9	5	3	0
10	6	0	2
11	6	2	0
12	6	3	1
13	7	0	1
14	7	1	0
15	7	2	1
16	7	3	1
17	8	0	0
18	8	0	2
19	8	1	1
20	8	2	0
21	8	3	0
22	8	3	3
23	9	0	1
24	9	0	3
25	9	1	0
26	9	1	1
27	9	1	2
28	9	1	3
29	9	2	0
30	9	2	3
31	9	3	0
41	9	3	1
51	9	3	2
61	10	0	0
71	10	0	0
81	10	0	0
91	10	0	0
Fee. fm.	10	0	0

*The Number of Years Purchased*

*Rat.* This is the Table, and the Use of it is very easie: But first, I will Explain it to you — It consists of Four Parts, which are the *Four Rates* of Interest, viz. 5, 6, 8. and 10 per Cent: In the first Column of each part are any Number of *Years* to be purchased from 1 Year to 31, successively; and from 31 (by Tens of Years) to 100 Years; against any Number of which Years (in the next Column adjoyning) you have the Number of *Years, Quarters, and Months Rent*, that such a *Lease or Annuity* is worth at any of the former Rates of Interest above-mentioned.

*Inqui.* I apprehend the Use of this Table already, as I conceive.

*Ration.* If so, pray resolve me this Question.

*Quest.* 1. What is a Lease (or Annuity) for 21 Years worth, at 5 per Cent.

*Inqui.* Ans. 12 Years, 3 Quarters, and 1 Month Purchase.

*Rat.* And what at 6, 8, and 10 per Cent?

*Inqui.* At 6 per Cent. } it is worth 10 Years, 3 Quarters, and 1 Month.  
 At 8 per Cent. } but 8 Years, 3 Quarters, and 1 Month.  
 At 10 per Cent. }

*Rat.* You understand the Table, and have answered my Question very well.

*Disse.* This is so plain, that nothing can be plainer.

*Rat.* Then answer me this Question.

*Quest.*



Quest. What is a Lease for 17 Years to come, at 13 l. the Year, worth in ready Money, at all the several Rates of Interest above-mentioned?

Ans. A Lease for 17 Years, at  $\left. \begin{array}{l} 5 \\ 6 \\ 8 \\ 10 \end{array} \right\}$  per

Cent. is worth  $\left. \begin{array}{l} 11 \\ 10 \\ 9 \\ 8 \end{array} \right\} \begin{array}{l} 1 \\ 2 \\ 0 \\ 0 \end{array} \begin{array}{l} 0 \\ 0 \\ 1 \\ 0 \end{array}$  Purchase.

Inqui. Thus for the Fine, now for the Money, the Rent being 13 Pound. Thus, 11 times 13 l. is 143 l. and the Quarter of a year is a quarter of 13 l. that is 3 l. 5 s. in all 146 l. 5 s. the value at 5 per Cent.

Again, 2.

10 times 13 l. is 130 l. and 2 Quarters (or half a year) is 6 l. 10 s. in all 136 l. 10 s. the value at 6 per Cent.

Again, 3.

9 times 13 l. is 117 l. and 1 Month (or one Twelfth of a Year) is one Twelfth of 13 l. which is 1 l. 1 s. 8 d. in all 118 l. 1 s. 8 d. the value at 8 per Cent.

F 3

Again,

Again, 4.

8 times 13 l. is 104 l. the value at 10 per Cent.

*Rati.* You have resolved this Question so effectually, that I need propose no other of this nature to you, and I hope my other Neighbour *Ditissimus* does so also.

*Ditif.* Very well, and in my Judgment it exceedeth any of the fore-going Tables.

*Ration.* Deceive not your self, for although this Table be so easie in its Use; yet it is not altogether so exact, because we here go but to a Moneths Rent, whereas the others do it to Weeks, nay to Days: But this is exact enough, and he that Buys or Sells by this Table shall not only know what number of Years Purchase he gave for any Lease so bought, but having bought any Lease or Annuity for any number of Years, he may by this Table know what Interest he hath allowed him for his Money so laid out: And this brings me to another necessary Question, which this Table will readily resolve: And it is this Question.

For a Lease of 23 Years I gave Nine Years Purchase, What Interest have I for my Money so laid out?

*Ditif.* I humbly conceive that I can resolve this Question by the Table.

*Rat.* Resolve it then.

*Ditif.* Seeing 9 Years Purchase was given for a Lease of 23 Years, I look into the several parts of the Table, to see in which of them 9 Years

Years stands against 23 (the Number of Years to be Purchased) and in the First Part I find 13 *T. 1 Q. 1 M.* In the second 12 *T. 1 Q. 1 M.* In the third 10 *T. 1 Q. 1 M.* All which are too much; But in the fourth I find 9 *T. 0 Q. 1 M.* which is too much also; but that is the Neerest in the Table, over which stands *X per Cent*, so that I conclude he hath 10 *per Cent*. for his Money laying out, and somewhat more; For he should have given one Months Rent more for the Purchase.

*Ration.* You have resolved the *Question* very well, and I will trouble you with no more concerning this *Table*. — And because I told you that after this *Table* I would explain unto you a *large Table of Multiplication*, to ease the Work in the *Construction* and *Use* of the *Five* first foregoing *Tables*; it comes now into my mind, that I have had occasion to calculate some *Tables* relating to the *Letting of Leases* and *Renewing of Fines* for *Lands* holden from *Deans* and *Chaplers* of *Cathedrals*, *Heads* and *Fellows* of *Colledges* in both *Universities*, which is different from other private *Tenures*, and because the promised large *Table of Multiplication* will be subservient to those *Tables* as well as to the *first Five*, I will first accomodate you with them and their *Uses*, and after them with the promised *Table of Multiplication*, to facilitate the Work of both.

*Disif. Inquis.* It is impossible for us to make you any satisfaction answerable to the pains you have hitherto taken for our Information in *Matters* of so deep a concern.

*Ration.* Trouble not your selves with that at present, but as freely receive them as I tender them to you, and here they be with their *Uses*.

*Concerning the Taking or Renewing of Leases, from Deans and Chapters of Cathedrals, or Heads and Fellows of Colledges.*

**T**HE Rate of Interest for the Letting of Leases and Taking of Fines of Deans and Chapters in Cathedrals, of Heads and Fellows of Colledges in both Universities, is between 11 l. and 12 l. per Cent. per Annum Compound Interest; for 11 l. is too little, 12 l. is too much, but the real rate is 11 l. 11 s. 8 d. 1 q.  $\frac{1}{8}$  of a Farthing: And so much do the Tenants of Cathedral Churches and Colledges make of their Money in taking New, or renewing Old Leases; and according to this rate here is a Table in Decimal and Vulgar Numbers, which will resolve Questions of this nature.

**Table I.**

The Table for finding the present worth of any sum of money payable at any time or times, in years, at any rate of interest, is as follows. And this is the most convenient and accurate Table for finding the present worth of any sum of money payable at any time or times, in years, at any rate of interest. Wherefore,

Table I.

Years	The present worth of One pound per Annum for	The following Table			
		1.	2.	3.	4.
1		0.90034	0.18	0.	0
2		1.69938	1.13	11.	3
3		2.41922	2.8	4.	2
4		3.06438	3.1	3.	2
5		3.64262	3.12	10.	2
6		4.16088	4.3	2.	2
7		4.62540	4.12	6.	0
8		5.04176	5.0	10.	1
9		5.41496	5.8	3.	2
10		5.74948	5.11	6.	0
11		6.04934	6.1	0.	0
12		6.31819	6.6	4.	1
13		6.55907	6.11	2.	0
14		6.77507	6.15	6.	1
15		6.96868	6.19	4.	2
16		7.14226	7.2	10.	0
17		7.29786	7.5	11.	2
18		7.43737	7.8	9.	0
19		7.56243	7.11	4.	0
20		7.67455	7.13	6.	0
21		7.77507	7.15	6.	0

The

The Fine for renewing or adding 7 years to 14 years, that are unexpired in a Lease for 21 years in being, is valued exactly at one years Purchase: And this is the fundamental proportion assigned for the making of this and the other Tables following. Wherefore,

According to the Table

		<i>l. s. d. q.</i>
Against 21 years is 7.77507	Or {	7-15-6-0
Against 14 years is 6.77507		6-15-6-1
The difference		0.19.11.3

So that it is apparent both by Vulgar and Decimal Numbers, that the Difference is nothing.

### *The Use of Table I.*

This first Table will resolve Questions of the nature of these following, *viz.*

Question I. *What Fine must be given for a Lease of 9 years, at 20 s. a year to commence presently?*

Seek 9 years in the first Column of the Table, and (against it) in the second Column you shall find 5.41496. Or (as in the third Column) 5 l. 8 s. 3 d. 2 q. *And such Fine must be given?*

Thus, if the Rent be 20 s. but if the Rent be more then 20 s. *per Annum.* then let it be

Question



Question II. *What Fine must be given for a Lease for 12 years to commence presently, at 23 l. per Annum?*

By the Table. The present worth of one Pound (or 20 s.) per Annum. for 12 years is 6.31819  
Which number multiplied by 23 — 23.  
(the Annual Rent.) —————

1895457  
1263638

Produceth ————— 14531837

Which is 145 l. 6 s. 4 d. 1 q.

And such Fine must be given.

Again,

Question III. *If a Tenant hath 7 years yet to come, in a Lease for 21 years, and desires to have 14 years added, to make it up 21 years, to commence from thence:*

*What Fine must he pay?*

If the Rent be 1 l. (or 20 s.) a year, the Table resolves the Question without farther trouble in this manner: For,

The number in the Table answer- }  
ing to 21 years, is ————— 7.77507

The number in the Table answering }  
to 7 (the number of years to come }  
of the Old Lease) is ————— 4.62540

Their difference is ————— 3.14967

Which reduced is 3 l. 3 s. and such Fine must be given to make the 7 years up 21 years.

But

But suppose the Annual Rent had been 212 l.  
 Then the former number ——— 3. 1 4 9 6 7  
 must be multiplied by the Rent 212 l.

6 2 9 9 3 4  
 3 1 4 9 6 7  
 6 2 9 9 3 4  
 And then the Product ——— 6 6 7 1 7 3 0 0 4  
 Or 667 l. 14 s. 7 d. 1 q. must be paid for a Fine.

In like manner :  
 Question IV. If 17 years of a Lease for 21 years be  
 yet to come, and the Tenant desires to renew and  
 make that 17 up 21, What Fine must he pay?

The Annual Rent being 50 l.

1 l. a year for 21 years is ——— 7. 775 07  
 1 l. a year for 17 years is ——— 7. 297 86  
 Their difference is ——— 477 21  
 Which multiplied by 50 the Annual  
 Rent. ——— § ——— 50  
 Produceth ——— 23 860 50

Or Reduced 23 — 17 — 2 — 1  
 And such Fine must be paid,

From the former Table I have deduced such a  
 Table as followeth, viz. Table II. which re-  
 solveth the 2 former (and the like) Questions  
 somewhat easier.

Table II.

Table II

The number standing against the years added to 7 years, which multiplied by the Annual Rent for

Years	Years	Years	Years	Years	Years	Years	Years
1	20	1	20	1	20	1	20
2	19	2	19	2	19	2	19
3	18	3	18	3	18	3	18
4	17	4	17	4	17	4	17
5	16	5	16	5	16	5	16
6	15	6	15	6	15	6	15
7	14	7	14	7	14	7	14
8	13	8	13	8	13	8	13
9	12	9	12	9	12	9	12
10	11	10	11	10	11	10	11
11	10	11	10	11	10	11	10
12	9	12	9	12	9	12	9
13	8	13	8	13	8	13	8
14	7	14	7	14	7	14	7
15	6	15	6	15	6	15	6
16	5	16	5	16	5	16	5
17	4	17	4	17	4	17	4
18	3	18	3	18	3	18	3
19	2	19	2	19	2	19	2
20	1	20	1	20	1	20	1

Ex ample.

*Example.*

Let the fore-going IV. Question be propounded to be resolved by this second Table.

The number standing against 4 }  
years added to 17 years is, ——— } 0.47720

Which multiplied by the Annual }  
Rent 50 l. ————— } 50

Produceth ————— 23|86000

Or, 23 l. — 17 s. — 2 d. — 1 q. — as before.

But yet farther.

*Questions of this Nature may be resolved to less than the 16th part of a years Purchase by Table III.*

Table III.

Table III.

The Fine for Renew- ing, or Ad- ding, of	Years		To make it up 21 years: is valued at	Tithes.		
	9	12		Tithes.	Quarters.	1 of 2 year.
1	20			0	0	1
2	19			0	0	3
3	18			0	1	1
4	17			0	1	3
5	16			0	2	2
6	15			0	3	0
7	14			1	0	0
8	13			1	0	3
9	12			1	1	3
10	11			1	2	3
11	10			2	0	0
12	9			2	1	1
13	8			2	2	3
14	7			3	0	2
15	6			3	2	1
16	5			4	0	2
17	4			4	2	3
18	3			5	1	1
19	2			6	0	1
20	1			6	3	2

As for Example.

What Fine must be given, to add 9 years to 12 years to come of a Lease to make it up 21 years?

In the Table, the Numbers standing against 9 and 12 years, are 1. 1. 3. which shews that the Fine

Finemust be one years Rent, and three Quarters  
of a Quarter of a years Rent.

So the Annual Rent being 86<sup>l</sup>. the Fine may be  
thus computed.

	l.	s.	d.
One years Rent is	86	0	0
One Quarter of a years Rent is	21	10	0
Three Quarters of a Quart. Rent is	16	2	0
Their sum is the Fine	123	12	0

I I 0 81

And this is the certain Rate by which they do  
compute all Fines for the letting of New, or  
renewing of Old Leases.

*Dis.* Sir I thank you for the great pains you  
have taken in giving us such ample satisfaction in  
all our demands; but how to make you amends, is  
below us.

*Ration.* For that benefit which you have recei-  
ved I am satisfied; and if you have got any ad-  
vantage, is all the end Bhad in the composing of  
this Work.

1	2	3	4	5	6	7	8	9	10
1	2	3	4	5	6	7	8	9	10
1	2	3	4	5	6	7	8	9	10
1	2	3	4	5	6	7	8	9	10
1	2	3	4	5	6	7	8	9	10
1	2	3	4	5	6	7	8	9	10
1	2	3	4	5	6	7	8	9	10
1	2	3	4	5	6	7	8	9	10
1	2	3	4	5	6	7	8	9	10
1	2	3	4	5	6	7	8	9	10

As for Example.

What Time will be now to add 9 years to 12  
years to come to a perfect work in 21 years  
in the Table, the number touching 21 years  
and 12 years is 33. which is the answer.



0	1	2	3	4	5	6	7	8	9	10
---	---	---	---	---	---	---	---	---	---	----

01	8	8	7	7	7	7	7	7	7
01	81	01	41	51	01	8	01	5	7
01	75	45	15	01	71	51	0	0	8
01	76	52	82	45	05	0	0	0	4
07	74	04	76	08	70	05	7	01	7
05	47	84	44	03	03	45	81	44	0
07	60	07	04	54	73	05	11	41	7
09	57	40	00	05	45	45	01	8	0
00	18	57	70	47	73	05	7	81	7

# T A B L E

**O F**

# MULTIPLICATION.

Calculated and Explained for the  
easie performing of the Arithmetical Work in  
this Discourse, by such as are not so ready at  
the Rules of Arithmetick as this Treatise re-  
quires.

1	2	3	4	5	6	7	8	9	10
1	2	3	4	5	6	7	8	9	10
2	4	6	8	10	12	14	16	18	20
3	6	9	12	15	18	21	24	27	30
4	8	12	16	20	24	28	32	36	40
5	10	15	20	25	30	35	40	45	50
6	12	18	24	30	36	42	48	54	60
7	14	21	28	35	42	49	56	63	70
8	16	24	32	40	48	56	64	72	80
9	18	27	36	45	54	63	72	81	90
10	20	30	40	50	60	70	80	90	100
11	22	33	44	55	66	77	88	99	110
12	24	36	48	60	72	84	96	108	120
13	26	39	52	65	78	91	104	117	130
14	28	42	56	70	84	98	112	126	140
15	30	45	60	75	90	105	120	135	150
16	32	48	64	80	96	112	128	144	160
17	34	51	68	85	102	119	136	153	170
18	36	54	72	90	108	126	144	162	180
19	38	57	76	95	114	133	152	171	190
20	40	60	80	100	120	140	160	180	200
21	42	63	84	105	126	147	168	189	210
22	44	66	88	110	132	154	176	198	220
23	46	69	92	115	138	161	184	207	230
24	48	72	96	120	144	168	192	216	240
25	50	75	100	125	150	175	200	225	250
26	52	78	104	130	156	182	208	234	260
27	54	81	108	135	162	189	216	243	270
28	56	84	112	140	168	196	224	252	280
29	58	87	116	145	174	203	232	261	290
30	60	90	120	150	180	210	240	270	300
31	62	93	124	155	186	217	248	279	310
32	64	96	128	160	192	224	256	288	320
33	66	99	132	165	198	231	264	297	330

1	2	3	4	5	6	7	8	9	10
---	---	---	---	---	---	---	---	---	----

35	68	102	136	170	204	238	272	306	340
35	70	105	140	175	210	245	280	315	350
36	71	108	144	180	216	252	288	324	360
37	74	111	148	185	222	259	296	333	370
38	76	114	152	190	228	266	304	342	380
39	78	117	156	195	234	273	312	351	390
40	80	120	160	200	240	280	320	360	400
41	82	123	164	205	246	287	328	369	410
42	84	126	168	210	252	294	336	378	420
43	86	129	172	215	258	301	344	387	430
44	88	132	176	220	264	308	352	396	440
45	90	135	180	225	270	315	360	405	450
46	92	138	184	230	276	322	368	414	460
47	94	141	188	235	282	329	376	423	470
48	96	144	192	240	288	336	384	432	480
49	98	147	196	245	294	343	392	441	490
50	100	150	200	250	300	350	400	450	500
51	102	153	204	255	306	357	408	459	510
52	104	156	208	260	312	364	416	468	520
53	106	159	212	265	318	371	424	477	530
54	108	162	216	270	324	378	432	486	540
55	110	165	220	275	330	385	440	495	550
56	112	168	224	280	336	392	448	504	560
57	114	171	228	285	342	399	456	513	570
58	116	174	232	290	348	406	464	522	580
59	118	177	236	295	354	413	472	531	590
60	120	180	240	300	360	420	480	540	600
61	122	183	244	305	366	427	488	549	610
62	124	186	248	310	372	434	496	558	620
63	126	189	252	315	378	441	504	567	630
64	128	192	256	320	384	448	512	576	640
65	130	195	260	325	390	455	520	585	650
66	132	198	264	330	396	462	528	594	660

	1	2	3	4	5	6	7	8	9	10
67	134	201	268	335	402	469	536	603	670	
68	136	204	272	340	408	476	544	612	680	
69	138	207	276	345	414	483	552	621	690	
70	140	210	280	350	420	490	560	630	700	
71	142	213	284	355	426	497	568	639	710	
72	144	216	288	360	432	504	576	648	720	
73	146	219	292	365	438	511	584	657	730	
74	148	222	296	370	444	518	592	666	740	
75	150	225	300	375	450	525	600	675	750	
76	152	228	304	380	456	532	608	684	760	
77	154	231	308	385	462	539	616	693	770	
78	156	234	312	390	468	546	624	702	780	
79	158	237	316	395	474	553	632	711	790	
80	160	240	320	400	480	560	640	720	800	
81	162	243	324	405	486	567	648	729	810	
82	164	246	328	410	492	574	656	738	820	
83	166	249	332	415	498	581	664	747	830	
84	168	252	336	420	504	588	672	756	840	
85	170	255	340	425	510	595	680	765	850	
86	172	258	344	430	516	602	688	774	860	
87	174	261	348	435	522	609	696	783	870	
88	176	264	352	440	528	616	704	792	880	
89	178	267	356	445	534	623	712	801	890	
90	180	270	360	450	540	630	720	810	900	
91	182	273	364	455	546	637	728	819	910	
92	184	276	368	460	552	644	736	828	920	
93	186	279	372	465	558	651	744	837	930	
94	188	282	376	470	564	658	752	846	940	
95	190	285	380	475	570	665	760	855	950	
96	192	288	384	480	576	672	768	864	960	
97	194	291	388	485	582	679	776	873	970	
98	196	294	392	490	588	686	784	882	980	
99	198	297	396	495	594	693	792	891	990	
100		200	300	400	500	600	700	800	900	1000

*A Declaration or Description of the foregoing Table  
of Multiplication.*

**T**HE Table consisteth of three Pages, each  
page containing 10 Rows or Columns, ha-  
ving at the head of each of them these numbers  
1 2 3 4 5 6 7 8 9 10, in larger figures than  
the rest of the Table.

Moreover, the first Column of the first Page,  
namely that under the figure 1, begins with 1, and  
so goes downward by 2, 3, 4, 6, &c. to 33. Then  
the first Column of the second Page begins where  
the other ended, namely at 34, and so goes down-  
ward by 35, 36, 37, 38, &c. to 66. And the third  
Page begins 67, and so goes on to 100; and there  
ends the Table. In all the Pages the first Column  
is separated from the second by a double Rule or  
Line; the other nine Columns of the Table begin  
with the same figure that stands at the top of it, and  
every number thereof successively increaseth by  
the quantity of the figure standing above.

As in the first Page, look in the Column that  
hath 4 at the top of it, the next figure under the  
double line and bigger figure is 4 also, the next un-  
der is 8, the next 12, the next 16, &c. to the end  
of the Table, every number exceeding each other  
4, answerable to the figure standing above. Like-  
wise those numbers under the figure 5, increase by  
5; those under 6, by 6, &c.

*Concerning the Fabrick or Construction of this Table.*

• The Table is made by multiplying any number standing in the first Column of the Table, by any figure standing at the head of the Table :

As for Example.

Suppose I would find what number in the 31 line of the Table stands under 8 ; if you multiply 31 by 8, you shall find 248 , and that number stands under 8 at the top, and against 31 in the side.

In like manner, if you would find what number in the 59 line of the Table stands under 7 ; if you multiply 59 by 7, it produceth 413, and this number in the second Page of the Table you shall find in the Column under 7, and against 59 in the first Column.

*The use of this Table.*

The chief use of this Table is to multiply one number by another, (though it will be serviceable in Division also) and I have inserted it in this place chiefly for the ease and benefit of such who are not so well acquainted with the Rules of Arithmetick, as the use of this Treatise requires, especially Multiplication, which here is chiefly used ; wherefore I have made this Table, and shall render the use of it so easie, that he that cannot (without-book, as we say) tell that 6 times 7 is 42, or 8 times 3 is 24, or any the like, shall (by help of this little Table, and the Instructions hereafter given) be able to multiply any great Sum very truly and



and easily. As by Example shall be made appear

**Example I.** Let it be required to multiply 27 by 4.

Find 27 in the first Column of the Table (having the figure 1 at the top thereof) then guide your finger or your eye from 27 in the same line that 27 stands in, till you come under the figure 4, and there you shall find 108, and that is the Product of 27 multiplied by 4, and so of any other.

**Example II.** Multiply 57 by 9.

Find 57 in the first Column of the Table (which you will find in the second Page) and right against it (in the same line) under 9, you shall find 513, and so much is 57 multiplied by 9.

**Example III.** Multiply 95 by 7.

Seek 95 in the first Column of the Table (which you shall find in the third Page under the figure 1) and right against it in the same line, and under 7, you shall find 665, and so much is 95 multiplied by 7, and so of any other.

**Example IV.** Let it be required to multiply 327 by 8.

Set the numbers to be multiplied one under another, as is usual in Multiplication, and as you see here done. Then make a prick between every second figure, beginning from the right hand towards the left, as here between 3 and 27 then look in your Table for 27 multiplied by 8, and (as before is taught) you shall

$$\begin{array}{r}
 327 \\
 \times 8 \\
 \hline
 216 \\
 24 \phantom{00} \\
 \hline
 2616
 \end{array}$$

G 4

shall find 216, which set orderly under the other figures, and under the line. Then find in your Table 8 multiplied by 3 (or 3 by 8, which is all one) and you shall find 24, which set under 216, but two places of figures forwarder towards the left hand, as you see here done, then draw a line under them, and add these two numbers together, and they make 236, which is the product of 327 multiplied by 8.

**Example V. Multiply 2358 by 6.**

Set the numbers as here you see. Then look in the Table for 58 multiplied by 6, and 2358 you shall find it to be 348, which set 6 down; then look for 23 multiplied by 6, and it is 138, which set under 348 the other, but still two places forwarder, then draw a line, and add them together, and their Sum is 14148, which is the product of 2358 multiplied by 6.

**Example VI. Multiply 573024 by 9.**

Set the numbers as is here done, making prick between every second figure from the left hand; then look in your Table for 24 multiplied by 9, and you shall find it to be 216, which set down; then look 30 multiplied by 9, and you shall find it to be 270, which set under the other two places forwarder, again look for 57 multiplied by 9, and it is

57.30.24  
 8 9  
 ———  
 216  
 270  
 513  
 ———  
 5157216

573, which set under the two former, fill two places forwarder, as you see in the Example, then draw a line, and add all three numbers together in the same order as they stand, so will the sum of them be 5157216, which is the product of 573024 being multiplied by 9.

**Example VII. Let it be required to multiply 7493 by 47.**

Set down the numbers as before, and as is here done, making a prick between every second figure. Then repairing to your Table, begin with your first figure towards the right hand, which is here 7. And look what 93 by 7 is: and you shall find it 651, which set down as before, then find what 74 multiplied by 7 is, and you shall find it to be 518, which set down in all respects as before. So have you done with your first figure 7, then for the other figure 4, look what 93 multiplied by 4 is, and you shall find it 372, which set under the two former numbers, with this caution, [that the first figure of your number found in your Table, stand just under the figure by which you multiply, as here you multiply by 4, wherefore, set the first figure of 372 (which is 2) just under 4] then see what 74 multiplied by 4 is, and you shall find it 296, which set two places forwarder, as in the other Examples, then draw a line, and add the four numbers together in the same order as they stand, so will the sum of them be 352170, and

and is the product of 7493, being multiplied by 47.

*Another manner of working the former Example.*

Set the numbers down as before, making of points between every two figures, and drawing a line under them. Then begin with your first figure 7, and find what 93 by 7 is, which you shall find

to be 651, which set down as before,

then look what 93 multiplied by 4, (your second figure is) and you shall find it 372, which set under the

former 651, only one place forward.

Then go again to your first figure 7, and see what 74 multiplied by 7 is, which you shall find to be

518, which set under the other, only one place forward.

Lastly look what 74 multiplied by 4 is, which you shall find to be 296, which set under still but

one place forwarder, then draw a line and add them together, and you shall find their Sum to be

352171 equal to the former, and this I think to be the more regular way.

And in this manner by this small Table, may the greatest sum that need be

be easily and exactly multiplied, without the least charge to the memory.

And thus much for the use of this Table in Multiplication, which was the chief use I intended it for in this place; but many

other uses it might be applyed to, were it enlarged; but let this suffice in this place.

Only I will here insert a large Sum of multiplication ready wrought both ways, leaving you to the practice of the like,

and

And that shall be this 475238 multiplied by 73862.

The First was

The Second was

47.5238

47.5238

73862

73862

76										76									
1044										228									
0	0	0	94	0	0	0	0	0	0	0	0	0	304	0	0	0	0	0	0
0	0	0	228	0	0	0	0	0	0	0	0	0	114	0	0	0	0	0	0
0	0	0	312	0	0	0	0	0	0	0	0	0	266	0	0	0	0	0	0
0	0	0	282	0	0	0	0	0	0	0	0	0	104	0	0	0	0	0	0
0	0	0	304	0	0	0	0	0	0	0	0	0	312	0	0	0	0	0	0
0	0	0	416	0	0	0	0	0	0	0	0	0	416	0	0	0	0	0	0
0	0	0	376	0	0	0	0	0	0	0	0	0	156	0	0	0	0	0	0
0	0	0	114	0	0	0	0	0	0	0	0	0	364	0	0	0	0	0	0
0	0	0	156	0	0	0	0	0	0	0	0	0	94	0	0	0	0	0	0
0	0	0	141	0	0	0	0	0	0	0	0	0	282	0	0	0	0	0	0
0	0	0	266	0	0	0	0	0	0	0	0	0	376	0	0	0	0	0	0
0	0	0	364	0	0	0	0	0	0	0	0	0	141	0	0	0	0	0	0
0	0	0	329	0	0	0	0	0	0	0	0	0	329	0	0	0	0	0	0
<hr/>										<hr/>									
35102029156										35102029156									
0	0	0	1	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0
0	0	0	4	0	0	0	0	0	0	0	0	0	8	0	0	0	0	0	0
0	0	0	7	0	0	0	0	0	0	0	0	0	9	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Tables

Tables of Simple Interest at 6 per Cent. By which the true Interest due upon any Sum of Money from 5 s. to 1000 l. And for any time from one Month to a Year, may be easily discovered. And consequently for a longer or shorter time.

82 57.74 188 57.74  
208 Simple Interest at 6

Principal	I. Month.			II Months			III Months.		
	l.	s.	d.	l.	s.	d.	l.	s.	d.
5 s.	0	10	0	10	0	0	20	0	0
10	0	0	11	20	0	18	0	0	1
15	0	0	0	30	0	1	20	0	2
1 l.	0	10	1	90	0	2	0	0	3
2	0	10	2	10	0	4	20	0	7
3	0	0	3	20	0	7	0	0	10
4	0	0	0	30	0	9	20	14	2
5	0	0	0	00	1	0	00	0	6
6	0	0	0	00	1	2	00	1	9
7	0	0	0	10	1	4	20	2	1
8	0	0	0	20	1	7	00	2	4
9	0	0	0	30	1	9	20	2	8
10	0	1	0	00	2	0	00	3	0
20	0	2	0	00	4	0	00	6	0
30	0	3	0	00	6	0	00	9	0
40	0	4	0	00	8	0	00	12	0
50	0	5	0	00	10	0	00	15	0
60	0	6	0	00	12	0	00	18	0
70	0	7	0	00	14	0	01	1	0
80	0	8	0	00	16	0	01	4	0
90	0	9	0	00	18	0	01	7	0
100	0	10	0	01	0	0	01	10	0
200	1	0	0	02	0	0	03	0	0
300	1	10	0	03	0	0	04	10	0
400	2	0	0	04	0	0	06	0	0
500	2	10	0	05	0	0	07	10	0
1000	5	0	0	10	0	0	15	0	0



Tables of Simple Interest at 6 per Cent. By which  
the true Interest due upon any Sum of Money  
from 5 to 1000 l. And for any time from one  
Month to a Year, may be easily discovered. And  
consequently for a longer or shorter time.

6 per Cent. for

Principal	1 <sup>st</sup> Year			2 <sup>nd</sup> Year			3 <sup>rd</sup> Year		
	l.	s.	d.	l.	s.	d.	l.	s.	d.
5	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0
75	0	0	0	0	0	0	0	0	0
80	0	0	0	0	0	0	0	0	0
85	0	0	0	0	0	0	0	0	0
90	0	0	0	0	0	0	0	0	0
95	0	0	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0	0	0
105	0	0	0	0	0	0	0	0	0
110	0	0	0	0	0	0	0	0	0
115	0	0	0	0	0	0	0	0	0
120	0	0	0	0	0	0	0	0	0
125	0	0	0	0	0	0	0	0	0
130	0	0	0	0	0	0	0	0	0
135	0	0	0	0	0	0	0	0	0
140	0	0	0	0	0	0	0	0	0
145	0	0	0	0	0	0	0	0	0
150	0	0	0	0	0	0	0	0	0
155	0	0	0	0	0	0	0	0	0
160	0	0	0	0	0	0	0	0	0
165	0	0	0	0	0	0	0	0	0
170	0	0	0	0	0	0	0	0	0
175	0	0	0	0	0	0	0	0	0
180	0	0	0	0	0	0	0	0	0
185	0	0	0	0	0	0	0	0	0
190	0	0	0	0	0	0	0	0	0
195	0	0	0	0	0	0	0	0	0
200	0	0	0	0	0	0	0	0	0
205	0	0	0	0	0	0	0	0	0
210	0	0	0	0	0	0	0	0	0
215	0	0	0	0	0	0	0	0	0
220	0	0	0	0	0	0	0	0	0
225	0	0	0	0	0	0	0	0	0
230	0	0	0	0	0	0	0	0	0
235	0	0	0	0	0	0	0	0	0
240	0	0	0	0	0	0	0	0	0
245	0	0	0	0	0	0	0	0	0
250	0	0	0	0	0	0	0	0	0
255	0	0	0	0	0	0	0	0	0
260	0	0	0	0	0	0	0	0	0
265	0	0	0	0	0	0	0	0	0
270	0	0	0	0	0	0	0	0	0
275	0	0	0	0	0	0	0	0	0
280	0	0	0	0	0	0	0	0	0
285	0	0	0	0	0	0	0	0	0
290	0	0	0	0	0	0	0	0	0
295	0	0	0	0	0	0	0	0	0
300	0	0	0	0	0	0	0	0	0
305	0	0	0	0	0	0	0	0	0
310	0	0	0	0	0	0	0	0	0
315	0	0	0	0	0	0	0	0	0
320	0	0	0	0	0	0	0	0	0
325	0	0	0	0	0	0	0	0	0
330	0	0	0	0	0	0	0	0	0
335	0	0	0	0	0	0	0	0	0
340	0	0	0	0	0	0	0	0	0
345	0	0	0	0	0	0	0	0	0
350	0	0	0	0	0	0	0	0	0
355	0	0	0	0	0	0	0	0	0
360	0	0	0	0	0	0	0	0	0
365	0	0	0	0	0	0	0	0	0
370	0	0	0	0	0	0	0	0	0
375	0	0	0	0	0	0	0	0	0
380	0	0	0	0	0	0	0	0	0
385	0	0	0	0	0	0	0	0	0
390	0	0	0	0	0	0	0	0	0
395	0	0	0	0	0	0	0	0	0
400	0	0	0	0	0	0	0	0	0
405	0	0	0	0	0	0	0	0	0
410	0	0	0	0	0	0	0	0	0
415	0	0	0	0	0	0	0	0	0
420	0	0	0	0	0	0	0	0	0
425	0	0	0	0	0	0	0	0	0
430	0	0	0	0	0	0	0	0	0
435	0	0	0	0	0	0	0	0	0
440	0	0	0	0	0	0	0	0	0
445	0	0	0	0	0	0	0	0	0
450	0	0	0	0	0	0	0	0	0
455	0	0	0	0	0	0	0	0	0
460	0	0	0	0	0	0	0	0	0
465	0	0	0	0	0	0	0	0	0
470	0	0	0	0	0	0	0	0	0
475	0	0	0	0	0	0	0	0	0
480	0	0	0	0	0	0	0	0	0
485	0	0	0	0	0	0	0	0	0
490	0	0	0	0	0	0	0	0	0
495	0	0	0	0	0	0	0	0	0
500	0	0	0	0	0	0	0	0	0
505	0	0	0	0	0	0	0	0	0
510	0	0	0	0	0	0	0	0	0
515	0	0	0	0	0	0	0	0	0
520	0	0	0	0	0	0	0	0	0
525	0	0	0	0	0	0	0	0	0
530	0	0	0	0	0	0	0	0	0
535	0	0	0	0	0	0	0	0	0
540	0	0	0	0	0	0	0	0	0
545	0	0	0	0	0	0	0	0	0
550	0	0	0	0	0	0	0	0	0
555	0	0	0	0	0	0	0	0	0
560	0	0	0	0	0	0	0	0	0
565	0	0	0	0	0	0	0	0	0
570	0	0	0	0	0	0	0	0	0
575	0	0	0	0	0	0	0	0	0
580	0	0	0	0	0	0	0	0	0
585	0	0	0	0	0	0	0	0	0
590	0	0	0	0	0	0	0	0	0
595	0	0	0	0	0	0	0	0	0
600	0	0	0	0	0	0	0	0	0
605	0	0	0	0	0	0	0	0	0
610	0	0	0	0	0	0	0	0	0
615	0	0	0	0	0	0	0	0	0
620	0	0	0	0	0	0	0	0	0
625	0	0	0	0	0	0	0	0	0
630	0	0	0	0	0	0	0	0	0
635	0	0	0	0	0	0	0	0	0
640	0	0	0	0	0	0	0	0	0
645	0	0	0	0	0	0	0	0	0
650	0	0	0	0	0	0	0	0	0
655	0	0	0	0	0	0	0	0	0
660	0	0	0	0	0	0	0	0	0
665	0	0	0	0	0	0	0	0	0
670	0	0	0	0	0	0	0	0	0
675	0	0	0	0	0	0	0	0	0
680	0	0	0	0	0	0	0	0	0
685	0	0	0	0	0	0	0	0	0
690	0	0	0	0	0	0	0	0	0
695	0	0	0	0	0	0	0	0	0
700	0	0	0	0	0	0	0	0	0
705	0	0	0	0	0	0	0	0	0
710	0	0	0	0	0	0	0	0	0
715	0	0	0	0	0	0	0	0	0
720	0	0	0	0	0	0	0	0	0
725	0	0	0	0	0	0	0	0	0
730	0	0	0	0	0	0	0	0	0
735	0	0	0	0	0	0	0	0	0
740	0	0	0	0	0	0	0	0	0
745	0	0	0	0	0	0	0	0	0
750	0	0	0	0	0	0	0	0	0
755	0	0	0	0	0	0	0	0	0
760	0	0	0	0	0	0	0	0	0
765	0	0	0	0	0	0	0	0	0
770	0	0	0	0	0	0	0	0	0
775	0	0	0	0	0	0	0	0	0
780	0	0	0	0	0	0	0	0	0
785	0	0	0	0	0	0	0	0	0
790	0	0	0	0	0	0	0	0	0
795	0	0	0	0	0	0	0	0	0
800	0	0	0	0	0	0	0	0	0
805	0	0	0	0	0	0	0	0	0
810	0	0	0	0	0	0	0	0	0
815	0	0	0	0	0	0	0	0	0
820	0	0	0	0	0	0	0	0	0
825	0	0	0	0	0	0	0	0	0
830	0	0	0	0	0	0	0	0	0
835	0	0	0	0	0	0	0	0	0
840	0	0	0	0	0	0	0	0	0
845	0	0	0	0	0	0	0	0	0
850	0	0	0	0	0	0	0	0	0
855	0	0	0	0	0	0	0	0	0
860	0	0	0	0	0	0	0	0	0
865	0	0	0	0	0	0	0	0	0
870	0	0	0	0	0	0	0	0	0
875	0	0	0	0	0	0	0	0	0
880	0	0	0	0	0	0	0	0	0
885	0	0	0	0	0	0	0	0	0
890	0	0	0	0	0	0	0	0	0
895	0	0	0	0	0	0	0	0	0
900	0	0	0						

Tables of Simple Interest at 6 per Cent. By which the true Interest due upon any Sum of Money from 5 s. to 1000 l. And for any time from one Month to a year, may be easily discovered And consequently for a longer or shorter time.

Principal	Simple Interest, at											
	VII				VIII				IX			
	Months.				Months.				Months.			
	l.	s.	d.	q.	l.	s.	d.	q.	l.	s.	d.	q.
5s	0	0	1	3	0	0	1	0	0	0	2	2
10	0	0	3	2	0	0	4	0	0	0	5	2
15	0	0	5	3	0	0	6	2	0	0	8	0
1 l.	0	0	7	0	0	0	8	0	0	0	10	2
2	0	1	4	1	0	1	6	0	0	1	9	1
3	0	2	0	2	0	2	4	0	0	2	7	3
4	0	2	8	1	0	3	2	0	0	3	6	3
5	0	3	6	0	0	4	0	0	0	4	6	0
6	0	4	2	0	0	4	8	0	0	5	4	2
7	0	4	10	1	0	5	6	0	0	6	3	1
8	0	5	16	2	0	6	4	0	0	7	1	3
9	0	6	2	3	0	7	2	0	0	8	0	3
10	0	7	0	0	0	8	0	0	0	9	0	0
20	0	14	0	0	0	16	0	0	0	18	0	0
30	1	1	0	0	1	4	0	0	1	7	0	0
40	1	8	0	0	1	12	0	0	1	16	0	0
50	1	15	0	0	2	0	0	0	2	5	0	0
60	2	2	0	0	2	8	0	0	2	14	0	0
70	2	9	0	0	2	16	0	0	3	3	0	0
80	2	16	0	0	3	4	0	0	3	12	0	0
90	3	3	0	0	3	12	0	0	4	1	0	0
100	3	10	0	0	4	0	0	0	4	10	0	0
200	7	0	0	0	8	0	0	0	9	0	0	0
300	10	10	0	0	12	0	0	0	13	10	0	0
400	14	0	0	0	16	0	0	0	18	0	0	0
500	17	10	0	0	10	0	0	0	22	10	0	0
1000	35	0	0	0	40	0	0	0	45	0	0	0

Tables of Simple Interest at 6 per Cent. By which the true Interest due upon any Sum of Money from 5 s. to 1000 l. And for any time for one Month to a year, may be easily discovered, And consequently for a longer or shorter time.

6 per Cent. for

Principal	X Months.				XI Months.				A Year.			
	Months.				Months.				Year.			
	l.	s.	d.	q.	l.	s.	d.	q.	l.	s.	d.	d.
5 s.	0	0	02	3	0	0	2	3	0	0	3	0
10	0	0	5	1	0	0	5	3	0	0	6	2
15	0	0	8	0	0	0	9	0	0	0	10	0
1 l.	0	0	10	0	0	0	11	0	0	1	2	1
2	0	1	9	0	0	2	0	2	0	2	4	2
3	0	2	11	0	0	3	2	2	0	3	6	3
4	0	3	11	0	0	4	3	0	0	4	9	0
5	0	5	0	0	0	5	6	0	0	5	11	1
6	0	5	11	0	0	6	6	2	0	7	2	1
7	0	6	11	0	0	7	7	2	0	8	4	2
8	0	7	11	0	0	8	8	2	0	9	6	3
9	0	8	11	2	0	9	9	3	0	10	9	0
10	0	10	0	0	0	11	0	0	0	12	0	0
20	1	0	0	0	1	2	0	0	1	4	0	0
30	1	10	0	0	1	13	0	0	1	16	0	0
40	2	0	0	0	2	4	0	0	2	8	0	0
50	2	10	0	0	2	15	0	0	3	0	0	0
60	3	0	0	0	3	6	0	0	3	12	0	0
70	3	10	0	0	3	17	0	0	4	4	0	0
80	4	0	0	0	4	8	0	0	4	19	0	0
90	4	10	0	0	4	19	0	0	5	8	0	0
100	5	0	0	0	5	10	0	0	6	0	0	0
200	10	0	0	0	11	0	0	0	12	0	0	0
300	15	0	0	0	16	10	0	0	18	0	0	0
400	20	0	0	0	22	0	0	0	24	0	0	0
500	25	0	0	0	27	10	0	0	30	0	0	0
1000	50	0	0	0	55	0	0	0	60	0	0	0



*A Description of the foregoing Tables of Interest.*

**T**HE Tables consist of four pages, each page containing four Columns; the first whereof toward the left hand, contains the Principal money let out, and that from 5 s. to 1000 l. in this order, the first space whereof contains 3 lines only, in which are 5 s. 10 s. 15 s. the second space downwards, begins at 1 l. and so continues by 2, 3, 4, &c. to 9 l. the third space contains nine Lines also, and begins at 10 l. and so continues by 20, 30, &c. to 90 l. And the fourth and last space contains six lines, beginning with 100 l. and going on to 200, 300, 400, 500 l. and in the last line of all 1000 l.

Now in the other three Columns you have the Interest that is due upon any Sum of money found in the first Column, either for I, II, or III Moneths, according to the Titles at the head of each Column.

*Example.*

If you find 100 l. in the first Column, right against it in the second you shall find 0 l. 10 s. 0 d. 0 q. which shews that 100 l. in I. Moneth, will yield 10 s. In the second Column against 100 l. you have 1 l. 0 s. 0 d. 0 q. which is the Interest of 100 l. for II. Moneths. And in the third Column against 100 l. you have 1 l. 20 s. 0 d. 0 q. which is the Interest of 100 l. in III. Moneths, according to the Title over head.

And

And note that what is here said of this first Page of the Table, the like is to be understood of the other three, the form and order whereof being the same; and so much for their Description.

*The Construction or making of these Tables of Interest.*

For the making of these Tables, this is the Analogue or Proportion.

As 100 *l.* forborn any time,

Is to the Interest thereof for that time.

So is any other sum of money forborn any time,

To the Interest thereof for that time.

*Example.*

Thus if 100 *l.* yield 6 *l.* Interest in a year, what shall 90 *l.* yield in the same time?

Turn your 6 *l.* into shillings, it makes 120 *s.* then say by the Rule of Three,

If 100 *l.* yield 120 *s.* what will 90 *l.* yield.

90  
10800

Multiply 120 by 90, and it produceth 10800, this divide by 100 (which is done by cutting off the two last figures towards the right hand) the Quotient is 108 *s.* which is 5 *l.* 8 *s.* and so much will 90 *l.* yield in 12 months, as by the Tables appear.

*Example.*

But for any other Sum, or any other time, As If 100 *l.* in 12 months yield 6 *l.* what shall 540 *l.* yield in three months?

H

Set

Set your numbers in order as followeth, and work by the double Rule of Proportion, thus:

If 100 *l.* in 12 months yield 6 *l.* what will 500 *l.* yield in 3 months.

$$\begin{array}{r}
 12 \qquad \qquad \qquad 3 \\
 \hline
 1200 \qquad \qquad \qquad 1500 \\
 \times 6 \qquad \qquad \qquad 6 \\
 \hline
 7200 \qquad \qquad \qquad 9000 \\
 \hline
 \end{array}$$

First multiply 100 *l.* by 12 months, it maketh 1200, which keep, for it must be your divisor. Then multiply 500 *l.* by 3 months, it produceth 1500, this divided by 1200, giveth in the Quotient 7 *l.* and 600 remaining, that is,  $\frac{600}{1200}$  of a *l.* which in lesser terms is  $\frac{1}{2}$  or  $\frac{1}{2}$  of a *l.* that is 10 *s.* So that if 100 *l.* in 12 months will yield 6 *l.* 500 *l.* in 3 months will yield 7 *l.* 10 *s.* as by the foregoing work you may see, and in the Table find 7 *l.* 10 *s.* under 3 months, to stand against 500 *l.* in the first Column. And thus are these Tables made, and may be by this means made for any Sum, and for any time and Rate of Interest whatsoever. And so let this suffice for the Construction or making of these Tables; their use follows.

### *The Use of these Tables.*

#### *Question I.*

*What is the Interest of 50 *l.* in 9 Months.*

Turn to that Page in the Table which hath IX Months, and look down that Row or Column that hath IX Months at the top of it, till you come again



against 50 *l.* in the first Column, and there you shall find 2 *l.* 5 *s.* 0 *d.* and that is the Interest of 50 *l.* for 9 Months.

*Question I I.*

*What will 300 *l.* yield me being forborne 11 Months?*

Turn to the last Page of the Table for XI Months and look down that Column till you come against 300 *l.* in the first, and there you shall find 16 *l.* 10 *s.* and so much will your 300 *l.* yield in XI Months.

*Question I I I.*

*What is the Interest of 237 *l.* in 3 Months?*

In your Table you cannot find 237 *l.* in one Sum; wherefore you must take it out at three times, and add them together, and the Sum of them will be the Interest due.

*Example.*

The Interest of 2000 *l.* 3 Months, is — 3 0 0

The Interest of 30 *l.* is — 0 9 0

The Interest for 7 *l.* is — 0 2 1

The Sum 3 11 1

Thus the Interest of 200 *l.* taken out of the Table for 3 Months, is 3 *l.* the Interest of 30 *l.* for the same time is 9 *s.* and the Interest for 7 *l.* 2 *s.* 1 *d.* which added together make 3 *l.* 11 *s.* 1 *d.* and so much will 237 *l.* yield at 3 Months end.

*Question. I V.*

*What profit will 1463 *l.* 15 *s.* yield in 6 Months at 6 per Cent;*

H 2

This

This must be performed much like the last First look the Interest of 1000 l. for 6 months, which you shall find to be 30 l. which set down, then 400 l. then 60 l. then 3 l. and lastly 15 s. as here you see.

1000 l. For 6 Months	30	0	0
400 l. For 6 Months	12	0	0
60 l. For 6 Months	1	16	0
3 l. For 6 Months	0	1	9
15 s. For 6 Months	0	0	5

The Sum 43 18 2 0

These several sums taken out of the Table for 6 Months, and added together, make 43 l. 18 s. 2 d. and that is the Interest or profit that 1463 l. 15 s. will yield in 6 Months.

Question 5.

If I receive 3 l. 19 s. 6 d. 3 q. for Interest at 3 Months end, what is my Principal money.

Turn to the Table of 3 Months, and amongst the sums there find the nearest, that is less, to your money received, and set it down, noting what principal sum stands against it, and set that by it.

Then find another sum that will with the other come nearer to your received sum, and set that and the Principal belonging to it under the other. And thus continue till you have made up your Sum to a farthing, then will the sum of the Principals added together, be equal to the Principal for which you received your money.

Example.

Look in the Table for 3 Months for the nearest entire sum to 3 l. 10 s. 6 d. 3 q. and you shall find

3*l.* to stand against 200*l.* wherefore set down 200*l.* and 3*l.* by it, as in the Margine; Then look in the same Table for 19*s.*

which you cannot find,

but 18*s.* you shall find

to stand against 60*l.* set

that down; then look for

1*s.* 6*d.* 3*q.* which you

cannot find, but 1*s.* 6*d.*

you find to stand against

5*l.* which set down;

Lastly find 3*q.* which you may see stand against

5*l.* These several sums being set down as in the

Margine, and added together, they make 3*l.* 19*s.*

6*d.* 3*q.* equal your sum for Interest received, and

the sum of the Principals added, make 265*l.* 5*s.*

and that was the Principal for which that Interest

was due in 3 Months.

### Question V I.

What is the Interest of 763*l.* 10*s.* in 9 Months?

In the Table you cannot find 700*l.* wherefore

take the Interest of 500*l.* and 200*l.* then take the

Interest of 60*l.* then the Interest of 3*l.* and lastly

of 10*s.* which set together, and added, make 34*l.*

7*s.* 1*d.* 1*q.* which is the Interest due upon 763*l.*

10*s.* for 9 Months, as here you see.

Interest Of 500*l.* for 9 Months — 22 10 0 0

Of 200 for 9 Months — 9 0 0 0

Of 60 for 9 Months — 2 14 0 0

Of 3 for 9 Months — 0 2 7 3

Of 10*s.* for 9 Mon. — 0 0 5 2

The Sum 34 07 1 1

H 3

TABLES

**TABLES**  
**Of Simple Interest at 8 per Cent. for a Year,**  
**or any number of Months, and from,**  
**5 s. to 1000 l.**

Simple Interest, at												
Principal	I Months.				II Months.				III Months.			
	l.	s.	d.	q.	l.	s.	d.	q.	l.	s.	d.	q.
5 s.	0	0	0	2	0	0	0	3	0	0	1	1
10	0	0	0	3	0	0	1	2	0	0	2	2
15	0	0	1	1	0	0	2	2	0	0	3	2
1 l.	0	0	1	2	0	0	3	1	0	0	4	3
2	0	0	3	1	0	0	6	2	0	0	9	2
3	0	0	4	3	0	0	9	2	0	1	2	2
4	0	0	6	2	0	1	0	3	0	1	7	1
5	0	0	8	0	0	1	4	0	0	2	0	0
6	0	0	9	2	0	1	7	1	0	2	4	3
7	0	0	11	1	0	1	10	2	0	2	9	2
8	0	1	0	3	0	2	1	2	0	3	2	2
9	0	1	2	2	0	2	4	3	0	3	7	1
10	0	1	4	0	0	2	8	0	0	4	0	0
20	0	2	8	0	0	5	4	0	0	8	0	0
30	0	4	0	0	0	8	0	0	0	12	0	0
40	0	5	4	0	0	10	8	0	0	16	0	0
50	0	6	8	0	0	13	4	0	1	0	0	0
60	0	8	0	0	0	16	0	0	1	4	0	0
70	0	9	4	0	0	18	8	0	1	8	0	0
80	0	10	8	0	1	1	4	0	1	12	0	0
90	0	12	0	0	1	4	0	0	1	16	0	0
100	0	13	4	0	1	6	8	0	2	0	0	0
200	1	6	8	0	2	13	4	0	4	0	0	0
300	2	00	0	0	4	0	0	0	6	0	0	0
400	2	13	4	0	5	6	8	0	8	0	0	0
500	3	6	8	0	6	13	4	0	10	0	0	0
1000	6	13	4	0	13	6	8	0	20	0	0	0

**TABLES**  
**Of Simple Interest at 8 per Cent. for a year,**  
**or any number of Months, and from**  
**5s. to 1000 l.**

8 per Cent. for

Principal	VI. Months.				XI Months.				A Year.			
	l.	s.	d.	q.	l.	s.	d.	q.	l.	s.	d.	q.
5	0	0	2	2	0	0	3	2	0	0	4	3
10	0	0	4	3	0	0	4	1	0	0	9	2
15	0	0	7	1	0	0	10	3	0	1	2	3
1	0	0	9	2	0	1	2	2	0	1	7	1
2	0	1	7	1	0	2	4	3	0	3	2	2
3	0	2	4	3	0	3	7	1	0	4	9	2
4	0	3	2	2	0	4	9	2	0	6	4	3
5	0	4	0	0	0	6	0	0	0	8	0	0
6	0	4	9	2	0	7	2	2	0	9	7	1
7	0	5	7	1	0	8	4	3	0	11	2	2
8	0	6	4	3	0	9	7	1	0	12	9	2
9	0	7	2	1	0	10	9	2	0	14	4	3
10	0	8	0	0	0	12	0	0	0	16	0	0
20	0	16	0	0	1	4	0	0	1	12	0	0
30	0	4	0	0	1	16	0	0	2	8	0	0
40	1	12	0	0	2	8	0	0	3	4	0	0
50	2	0	0	0	3	0	0	0	4	0	0	0
60	2	8	0	0	3	12	0	0	4	16	0	0
70	2	16	0	0	4	4	0	0	5	12	0	0
80	3	4	0	0	4	16	0	0	6	8	0	0
90	3	12	0	0	5	8	0	0	7	4	0	0
100	4	0	0	0	6	6	0	0	8	0	0	0
200	8	0	0	0	12	12	0	0	16	0	0	0
300	12	0	0	0	18	8	0	0	24	0	0	0
400	16	0	0	0	24	4	0	0	32	0	0	0
500	20	0	0	0	30	0	0	0	40	0	0	0
1000	40	0	0	0	60	0	0	0	80	0	0	0



*Concerning the Table of 8 per Cent.*

**T**His Table needeth no Description or Construction, for in both particulars it is the same, only the Rate of Interest is different, that being for 6, this for 8 per Cent. and the Months in the other went from 1 to a year without intermission, but this goes from 1 to 3 Months, and then to 6 Months, 9 Months, and a Year; the 6 other being omitted and supplied, as by the Questions following will appear.

*Question I.*

*What is the Interest due upon 400 l. for 2 Months at 8 per Cent.*

Look in the Table for the Column belonging to 2 months, and descend down the same till you come against 400 l. in the first Column, where you shall find 5 l. 6 s. 8 d. and such is the Interest of 400 l. for 2 months.

*Question II.*

*What is the Interest of 35 l. for 9 months.*

The Interest of 30 l. for 9 months will be found to be 1 l. 16 s. 0 d. and the interest of 5 l. for the same time, will be 6 s. which added, make 2 l. 2 s. and so much is the Interest of 35 l. in 9 Months.

		l.	s.	d.	q.
50 l.	In 9 months	1	16	0	0
4	In 9 months	0	6	0	0
		<hr/>			

The Sum 2 2 0 0

*Quest.*



Tables of Increase or Rebate of Money at 6 per Cent. By which the

Rate of any sum of Money may be found at any time

or the sum of Money may be found at any time at any rate

*What is the Interest of 976 l. for 7 months?*

In the Table you can neither find the sum of money, nor the time in one sum, wherefore you must take them out at two or three times. Thus:

The months being 7, you must for them, take 6 months and 1 month, and for the sum of pounds being 976 l. you must take 400 l. 500 l. 70 l. and 6 l. out of both months, and add them together for the Interest of your sum; As thus:

		l.	s.	d.	q.
400	For 6 months, is	16	00	0	
500		20	00	0	
70		2	16	0	
6		0	4	9	2
<hr/>					
400	For 1 month, is	2	13	4	0
500		3	6	8	0
70		0	9	4	0
6		0	0	9	2
<hr/>					
The Sum		54	10	11	0

Which is the Interest of 976 l. for 7 months. And thus must you do in the like Cases where neither Principal nor time can be found in one sum in the Tables.

Let it suffice that we have inserted these Tables and their Use concerning their Interest or Increase of money; I will now give you the like Tables, for Decrease or Rebate of money.

Tables

Tables of Rebate at 6 per Cent. By which the Rebate of any Sum of Money due at any number of Months, &c. or at a Year, may be easily discovered.

The Sum Re- bated for	Rebate at								
	I Months.			II Months.			III Months.		
	s.	d.	q.	s.	d.	q.	s.	d.	q.
5s.	0	0	1	0	0	2	0	0	2
10	0	0	2	0	0	1	0	0	1
15	0	0	3	0	0	2	0	0	2
11.	0	0	1	0	0	3	0	0	3
2	0	0	2	0	0	4	0	0	4
3	0	0	3	0	0	9	0	0	9
4	0	0	4	0	0	7	0	0	7
5	0	0	6	0	0	11	0	0	11
6	0	0	7	0	1	2	0	1	2
7	0	0	8	0	1	4	0	2	4
8	0	0	9	0	1	7	0	2	7
9	0	0	10	0	1	9	0	2	9
10	0	1	0	0	1	11	0	2	11
20	0	1	11	0	3	11	0	5	11
30	0	2	11	0	5	11	0	8	11
40	0	3	11	0	7	11	0	11	11
50	0	4	11	0	9	10	0	14	10
60	0	5	11	0	19	10	0	17	9
70	0	6	11	0	13	10	1	0	8
80	0	7	11	0	15	10	1	3	7
90	0	8	11	0	17	9	1	6	7
100	0	9	11	0	19	9	1	9	6
200	0	19	10	1	19	7	1	19	1
300	1	9	10	1	19	4	3	8	8
400	1	19	9	2	19	2	2	18	2
500	2	9	9	0	19	0	0	7	9
1000	4	19	6	0	18	0	1	14	6

Tables of Rebate at 6 per Cent. By which the Rebate of any Sum of Money due at any number of Months, &c. or at a Year, may be easily discovered.

6 per Cent. for

The Sum Re- bated for	IV. Months.				V. Months.				VI. Months.			
	l.	s.	d.	q.	l.	s.	d.	q.	l.	s.	d.	q.
5	0	0	1	10	0	0	1	20	0	0	1	30
10	0	0	2	10	0	0	2	30	0	0	3	20
15	0	0	3	20	0	0	4	10	0	0	5	10
1	0	0	4	30	0	0	5	30	0	0	7	00
2	0	0	9	20	0	0	11	30	0	1	2	00
3	0	1	2	00	0	1	5	20	0	1	9	00
4	0	1	6	30	0	1	11	20	0	2	4	00
5	0	1	11	20	0	2	5	10	0	2	11	00
6	0	2	4	10	0	2	11	00	0	3	6	00
7	0	2	8	30	0	3	4	30	0	4	1	00
8	0	3	1	20	0	3	10	30	0	4	8	00
9	0	3	6	10	0	4	4	20	0	5	3	00
10	0	3	11	00	0	4	9	20	0	5	10	00
20	0	7	10	00	0	9	9	00	0	11	7	30
30	0	11	9	10	0	14	7	20	0	17	5	30
40	0	15	8	10	0	19	6	01	0	3	3	20
50	0	19	7	11	0	4	4	21	0	9	1	20
60	1	3	6	11	0	9	3	11	0	14	11	20
70	1	7	5	21	0	14	11	32	0	0	9	10
80	1	11	4	21	0	19	0	12	0	6	7	10
90	1	15	3	22	0	3	10	32	0	12	5	00
100	1	19	2	22	0	8	9	12	0	18	3	00
200	2	18	5	14	0	17	6	35	0	16	6	00
300	5	17	7	37	0	6	4	08	0	14	9	00
400	7	16	10	29	0	15	1	211	0	13	0	00
500	9	16	0	312	0	3	10	314	0	11	3	00
1000	19	12	1	324	0	7	9	229	0	2	6	10

Tables of Rebate at 6 per Cent. By which the Rebate of any Sum of Money due at any number of Months, &c. or at a year, may be easily discovered.

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		Rebate at 6 per Cent.											
The Sum Re- bated for		VII				VIII				IX			
		Months.				Months.				Months.			
		l.	s.	d.	q.	l.	s.	d.	q.	l.	s.	d.	q.
5	s.	0	0	2	0	0	0	12	11	0	0	2	2
10		0	0	4	0	0	0	14	12	0	0	5	1
15		0	0	6	0	0	0	16	13	0	0	7	3
1	l.	0	0	8	0	0	0	9	1	0	0	10	1
2		0	1	0	1	0	1	6	2	0	1	8	3
3		0	2	0	1	0	2	3	3	0	2	7	0
4		0	2	8	2	0	3	0	3	0	3	5	1
5		0	3	4	3	0	3	10	1	0	4	3	2
6		0	4	0	3	0	4	7	2	0	5	2	0
7		0	4	8	3	0	5	4	2	0	6	0	1
8		0	5	5	0	0	6	1	13	0	6	10	3
9		0	6	1	0	0	6	11	0	0	7	9	0
10		0	6	9	0	0	7	8	1	0	8	7	1
20		0	13	6	1	0	13	4	2	0	17	2	3
30		1	0	3	2	1	3	1	0	1	5	10	0
40		1	7	0	3	1	10	9	1	1	14	5	2
50		1	13	9	3	1	18	5	2	2	3	0	3
60		2	0	6	3	2	6	1	3	2	11	8	0
70		2	7	4	0	2	13	10	1	3	0	3	2
80		2	14	1	1	3	1	6	2	3	8	10	3
90		3	0	10	2	3	9	2	3	3	17	6	0
100		3	7	7	2	3	16	11	0	4	6	10	2
200		6	15	3	1	7	13	10	0	8	12	30	0
300		10	2	10	3	11	10	9	1	12	18	4	2
400		13	10	6	1	15	7	8	1	17	4	50	0
500		16	18	2	2	19	4	7	1	21	10	70	2
1000		33	16	4	0	38	9	2	3	43	11	300	0

Tables of Rebate at 6 per Cent. By which the Rebate of any Sum of Money due at any number of Months, Years, or at a Year, may be easily discovered.

A Description of this Table of Rebate.

6 per Cent. for

Sum of Money	Months	Years	Months	Years
1000	0	0	0	0
900	0	0	0	0
800	0	0	0	0
700	0	0	0	0
600	0	0	0	0
500	0	0	0	0
400	0	0	0	0
300	0	0	0	0
200	0	0	0	0
100	0	0	0	0
90	0	0	0	0
80	0	0	0	0
70	0	0	0	0
60	0	0	0	0
50	0	0	0	0
40	0	0	0	0
30	0	0	0	0
20	0	0	0	0
10	0	0	0	0
9	0	0	0	0
8	0	0	0	0
7	0	0	0	0
6	0	0	0	0
5	0	0	0	0
4	0	0	0	0
3	0	0	0	0
2	0	0	0	0
1	0	0	0	0
0	0	0	0	0



*A Description of these Tables of Rebate.*

**T**Hese *Tables* (as those of Interest did) do contain four Pages, and each Page four Columns, the first of which contains any sum of money to be Rebated for from  $5s$  to  $1000l$ , as the other *Tables* did for any Principal money, and in the same order, by  $5$ ,  $10$ , and  $15s$ . then from  $1l$  to  $10l$ , and from  $10l$  to  $100l$  and from  $100l$  to  $500l$  and lastly to  $1000l$ . And the months begin at One, and go on by  $2$ ,  $3$ ,  $4$ , &c. to a Year, for the time that any sum of money is to be Rebated for. And herein consists the difference of Interest and Rebate, that as money forborn beyond the time it is due, does increase; So money Rebated for, or taken before its time, does in its Principal decrease, but not in the same proportion.

*The Construction or Making of these Tables.*

For the Construction or Making of this *Table*, this is the Analogue or Proportion.

As  $100l$ . with the Interest thereof for any time,  
Is to  $100l$ .

So is any other sum to be paid at the same time,  
To the worth of that sum in ready money.

*Example.*

Suppose  $300l$ . were to be paid 9 months hence,  
what is it worth to be paid presently?

Say



Say, As 100 l. with the Interest thereof for 9 months, which is 4 l. 10 s. is to 100 l. so is 300 l. to what? Set your numbers as here you see, and work by the rule of Proportion; so shall you find the 300 l. due 9 months hence to be worth 287 l. 1 s. 7 d. 2 q. which is 12 l. 18 s. 4 d. 2 q. less than the full sum, and this number you see stands in the Table under IX Months, against 300 l.

*See the Work.*

As 104 l. 10 s. to 100 l. So 300 l. to 287  $\frac{11}{16}$

$$\begin{array}{r} 104 \text{ l. } 10 \text{ s.} \\ 2090 \end{array} \quad \begin{array}{r} 100 \text{ l.} \\ 6000 \end{array}$$

124 (1

2828 (7

65550 (287 l.  $\frac{11}{16}$  which reduced is  
25990 1 s. 7 d. 2 q.

255

x

*The use of these Tables*

*Question 1.*

If 400 l. to be paid 8 months hence, be paid presently, what is to be rebated?

Look in the Table of 8 months, and cast your eye down that Column, till you come against 400 l. in the first Column, and in that line you shall find 15 l. 7 s. 8 d. 1 q. and so much must be rebated to receive the money presently.

And here note that this is not equal to the Interest that 400 l. would have amounted to in 8 months, which is 16 l. but is less by 4 s. 3 d. 3 q.

*Quest.*

*Question II.* If 1829 l. 19 s. be to be paid at the end of twelve months, or a year, what is the Rebate, and what ready money will satisfy the debt?

You must take it at several times out of the Table, as you did in finding the Interest, Thus:

The Re- bate of		for a Year		is	
1000	00	1000	00	1000	00
400	00	400	00	22	12 10 0
400	00	400	00	22	12 19 0
25	00	25	00	2	2 17 3
9	00	9	00	0	10 52 2
15	00	15	00	0	0 10 1

The Sum of the Rebate is 103 11 5 2  
Which Subtracted from the sum to be received,  
leaves 1726 L. 3 s. 6 d. 2 q. and so much ready money must be paid in full satisfaction presently.

The whole debt — — — 1829 15 0 0

The Rebate for 12 months — — — 103 11 5 2

The sum satisfactory — — — 1726 3 6 2

### Question III.

If 300 l. be to be paid in 9 months, at three several payments, namely at three three months, that is 100 l. at three months, 100 l. at 6 months, and 100 l. at 9 months. If the Debtor would discharge it presently, what sum of money must he pay?

The Rebate of 100 l. for 3 months,	is	1	9	6	3
100 for 6 months,	is	2	18	3	0
100 for 9 months,	is	4	6	1	2
The Sum		8	13	11	1
Which					

Which subtracted from 300 l. (the full sum) there remains 291 l. 6 s. 0 d. 3 q. which present money will discharge the debt so to be paid.

*Question IV.*

*If a Legacy be to be paid of 100 l. by monthly payments, 10 l. a month, what money must the Executor deposit presently to the Legatee, he rebating after the rate of 6 per Cent.*

You must conceive that this Legacy would have been all paid in 10 months; wherefore take out of every month successively from 1 to 10 months (including both) the rebates, and add them together, their sum taken from 100 l. leaves the money that the Executor is to pay presently.

		l.	s.	d.	q.
The Rebate of 10 l. for	1	0	1	0	0
	2	0	1	11	3
	3	0	2	11	2
	4	0	3	11	0
	5	0	4	9	2
	6	0	5	10	0
	7	0	6	9	0
	8	0	7	8	1
	9	0	8	7	1
	10	0	9	6	1

The Sum 2 13 7 2

Which subtract from 100 0 0 0

There remains 97 6 4 2

And so much ready money will satisfy the Legacy of 100 l. to be paid as aforesaid.

*Tables*

# TABLES OF REBATE

At 8 per Cent.

Rebate at

The Sum Re- bated for	I Moneths.				II Moneths.				III Moneths.			
	l.	s.	d.	q.	l.	s.	d.	q.	l.	s.	d.	q.
5 s.	0	0	0	1	0	0	0	3	0	0	1	0
10	0	0	0	2	0	0	1	2	0	0	2	1
15	0	0	1	0	0	0	2	1	0	0	3	2
1 l.	0	0	1	1	0	0	3	1	0	0	4	0
2	0	0	2	2	0	0	6	2	0	0	8	0
3	0	0	3	3	0	0	9	3	0	1	0	0
4	0	0	5	0	0	1	1	0	0	1	4	0
5	0	0	6	1	0	1	4	1	0	1	8	0
6	0	0	7	2	0	1	7	2	0	2	0	0
7	0	0	8	3	0	1	10	3	0	2	4	0
8	0	0	10	0	0	2	2	0	0	2	8	0
9	0	0	11	1	0	2	5	1	0	3	0	0
10	0	1	4	0	0	2	7	2	0	3	10	3
20	0	2	8	0	0	5	3	0	0	7	9	2
30	0	4	0	0	0	7	10	2	0	11	8	1
40	0	5	4	0	0	10	6	0	0	15	7	0
50	0	6	8	0	0	13	1	2	0	19	5	3
60	0	8	0	0	0	15	9	0	1	3	4	2
70	0	9	4	0	0	18	4	2	1	7	3	1
80	0	10	8	0	1	1	0	0	1	11	2	0
90	0	12	0	0	1	3	7	2	1	15	0	3
100	0	13	2	3	1	6	3	3	1	19	2	2
200	1	6	5	2	2	12	7	2	3	18	5	0
300	1	19	8	1	3	18	11	1	5	17	7	2
400	2	12	11	0	5	5	3	0	7	16	10	0
500	3	6	1	3	6	11	6	3	9	16	0	2
1000	6	14	3	2	13	3	1	2	19	12	1	0

# TABLES OF

# REBATE

At 8 per Cent.

Open Cent. for

	VI. Months.				IX Months.				XII Year.			
	l.	s.	d.	q.	l.	s.	d.	q.	l.	s.	d.	q.
0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	1	1	0	0	1	1	0	0	1	1
2	0	0	2	2	0	0	2	2	0	0	2	2
3	0	0	3	3	0	0	3	3	0	0	3	3
4	0	0	4	4	0	0	4	4	0	0	4	4
5	0	0	5	5	0	0	5	5	0	0	5	5
6	0	0	6	6	0	0	6	6	0	0	6	6
7	0	0	7	7	0	0	7	7	0	0	7	7
8	0	0	8	8	0	0	8	8	0	0	8	8
9	0	0	9	9	0	0	9	9	0	0	9	9
10	0	0	10	10	0	0	10	10	0	0	10	10
11	0	0	11	11	0	0	11	11	0	0	11	11
12	0	0	12	12	0	0	12	12	0	0	12	12
13	0	0	13	13	0	0	13	13	0	0	13	13
14	0	0	14	14	0	0	14	14	0	0	14	14
15	0	0	15	15	0	0	15	15	0	0	15	15
16	0	0	16	16	0	0	16	16	0	0	16	16
17	0	0	17	17	0	0	17	17	0	0	17	17
18	0	0	18	18	0	0	18	18	0	0	18	18
19	0	0	19	19	0	0	19	19	0	0	19	19
20	0	0	20	20	0	0	20	20	0	0	20	20
21	0	0	21	21	0	0	21	21	0	0	21	21
22	0	0	22	22	0	0	22	22	0	0	22	22
23	0	0	23	23	0	0	23	23	0	0	23	23
24	0	0	24	24	0	0	24	24	0	0	24	24
25	0	0	25	25	0	0	25	25	0	0	25	25
26	0	0	26	26	0	0	26	26	0	0	26	26
27	0	0	27	27	0	0	27	27	0	0	27	27
28	0	0	28	28	0	0	28	28	0	0	28	28
29	0	0	29	29	0	0	29	29	0	0	29	29
30	0	0	30	30	0	0	30	30	0	0	30	30
31	0	0	31	31	0	0	31	31	0	0	31	31
32	0	0	32	32	0	0	32	32	0	0	32	32
33	0	0	33	33	0	0	33	33	0	0	33	33
34	0	0	34	34	0	0	34	34	0	0	34	34
35	0	0	35	35	0	0	35	35	0	0	35	35
36	0	0	36	36	0	0	36	36	0	0	36	36
37	0	0	37	37	0	0	37	37	0	0	37	37
38	0	0	38	38	0	0	38	38	0	0	38	38
39	0	0	39	39	0	0	39	39	0	0	39	39
40	0	0	40	40	0	0	40	40	0	0	40	40
41	0	0	41	41	0	0	41	41	0	0	41	41
42	0	0	42	42	0	0	42	42	0	0	42	42
43	0	0	43	43	0	0	43	43	0	0	43	43
44	0	0	44	44	0	0	44	44	0	0	44	44
45	0	0	45	45	0	0	45	45	0	0	45	45
46	0	0	46	46	0	0	46	46	0	0	46	46
47	0	0	47	47	0	0	47	47	0	0	47	47
48	0	0	48	48	0	0	48	48	0	0	48	48
49	0	0	49	49	0	0	49	49	0	0	49	49
50	0	0	50	50	0	0	50	50	0	0	50	50
51	0	0	51	51	0	0	51	51	0	0	51	51
52	0	0	52	52	0	0	52	52	0	0	52	52
53	0	0	53	53	0	0	53	53	0	0	53	53
54	0	0	54	54	0	0	54	54	0	0	54	54
55	0	0	55	55	0	0	55	55	0	0	55	55
56	0	0	56	56	0	0	56	56	0	0	56	56
57	0	0	57	57	0	0	57	57	0	0	57	57
58	0	0	58	58	0	0	58	58	0	0	58	58
59	0	0	59	59	0	0	59	59	0	0	59	59
60	0	0	60	60	0	0	60	60	0	0	60	60
61	0	0	61	61	0	0	61	61	0	0	61	61
62	0	0	62	62	0	0	62	62	0	0	62	62
63	0	0	63	63	0	0	63	63	0	0	63	63
64	0	0	64	64	0	0	64	64	0	0	64	64
65	0	0	65	65	0	0	65	65	0	0	65	65
66	0	0	66	66	0	0	66	66	0	0	66	66
67	0	0	67	67	0	0	67	67	0	0	67	67
68	0	0	68	68	0	0	68	68	0	0	68	68
69	0	0	69	69	0	0	69	69	0	0	69	69
70	0	0	70	70	0	0	70	70	0	0	70	70
71	0	0	71	71	0	0	71	71	0	0	71	71
72	0	0	72	72	0	0	72	72	0	0	72	72
73	0	0	73	73	0	0	73	73	0	0	73	73
74	0	0	74	74	0	0	74	74	0	0	74	74
75	0	0	75	75	0	0	75	75	0	0	75	75
76	0	0	76	76	0	0	76	76	0	0	76	76
77	0	0	77	77	0	0	77	77	0	0	77	77
78	0	0	78	78	0	0	78	78	0	0	78	78
79	0	0	79	79	0	0	79	79	0	0	79	79
80	0	0	80	80	0	0	80	80	0	0	80	80
81	0	0	81	81	0	0	81	81	0	0	81	81
82	0	0	82	82	0	0	82	82	0	0	82	82
83	0	0	83	83	0	0	83	83	0	0	83	83
84	0	0	84	84	0	0	84	84	0	0	84	84
85	0	0	85	85	0	0	85	85	0	0	85	85
86	0	0	86	86	0	0	86	86	0	0	86	86
87	0	0	87	87	0	0	87	87	0	0	87	87
88	0	0	88	88	0	0	88	88	0	0	88	88
89	0	0	89	89	0	0	89	89	0	0	89	89
90	0	0	90	90	0	0	90	90	0	0	90	90
91	0	0	91	91	0	0	91	91	0	0	91	91
92	0	0	92	92	0	0	92	92	0	0	92	92
93	0	0	93	93	0	0	93	93	0	0	93	93
94	0	0	94	94	0	0	94	94	0	0	94	94
95	0	0	95	95	0	0	95	95	0	0	95	95
96	0	0	96	96	0	0	96	96	0	0	96	96
97	0	0	97	97	0	0	97	97	0	0	97	97
98	0	0	98	98	0	0	98	98	0	0	98	98
99	0	0	99	99	0	0	99	99	0	0	99	99
100	0	0	100	100	0	0	100	100	0	0	100	100

*Concerning these Tables of Rebate.*

**T**Hese Tables for Rebate at 8 l. per Cent. have the same Construction, and are to be used in all respects as those other of 6 l. per Cent. were, and therefore it were needless here to say any thing more concerning them in this place, it being sufficient that the Tables themselves be seen. Only take notice, that the Tables for 6 l. per Cent. went from One Month to a Year successively, and these are only for I. II. III. VI. IX. Months and a Year.

*Advertisement.*

**N**otwithstanding 6 per Cent. is the common rate of Interest settled by the Statute, yet some Money is and hath been lately frequently lent forth at 4 and 5 per Cent. I have here inserted two Tables for that purpose also, whose use is the same with that of 6 and 8 per Cent.



Table shewing the Interest due upon any Sum of Money, from 20 Shillings to 1000 Pounds, and from one Moneths time to a Year: Calculated at the Rate of 4 l. per Cent.

Simple Interest, at

	I Moneths.				II Moneths.				III Moneths.			
	l.	s.	d.	q.	l.	s.	d.	q.	l.	s.	d.	q.
20	0	0	0	3	0	0	0	1	0	0	2	1
30	0	0	0	2	0	0	0	3	0	0	4	2
40	0	0	1	1	0	0	0	4	0	0	6	3
50	0	0	2	1	0	0	0	6	0	0	9	0
60	0	0	3	0	0	0	0	8	0	0	11	1
70	0	0	4	3	0	0	0	9	0	1	1	2
80	0	0	4	1	0	0	0	10	0	1	3	3
90	0	0	5	2	0	1	1	0	0	1	6	0
100	0	0	6	1	0	1	2	0	0	1	8	1
110	0	0	7	0	0	1	4	0	0	2	0	0
120	0	0	8	0	0	2	8	0	0	4	0	0
130	0	1	4	0	0	4	0	0	0	6	0	0
140	0	2	0	0	0	4	0	0	0	8	0	0
150	0	2	8	0	0	5	4	0	0	10	0	0
160	0	3	4	0	0	6	8	0	0	12	0	0
170	0	4	0	0	0	8	0	0	0	14	0	0
180	0	4	8	0	0	9	4	0	0	16	0	0
190	0	5	4	0	0	10	8	0	0	18	0	0
200	0	6	0	0	0	12	0	0	0	18	0	0
210	0	6	8	0	0	13	4	0	1	0	0	0
220	0	6	13	4	0	6	8	0	2	0	0	0
230	1	0	0	0	0	0	0	0	3	0	0	0
240	1	0	8	0	0	13	4	0	4	0	0	0
250	1	1	3	4	0	6	8	0	5	0	0	0
260	1	2	0	0	0	0	0	0	6	0	0	0
270	2	0	6	8	0	4	13	4	7	0	0	0
280	2	6	13	4	0	6	8	0	8	0	0	0
290	2	0	0	0	0	0	0	0	9	0	0	0
300	3	0	0	0	0	0	0	0	10	0	0	0
310	3	6	8	0	0	13	4	0	10	0	0	0

A Table shewing the Interest due upon any Sum of Money from 20 Shillings to 1000 Pounds and from one Moneths time to a year: Calculated at the Rate of 4*l.* per Cent.

4 per Cent. for

Principal	IV. Moneths.				V Moneths.				VI Moneths.			
	<i>l.</i>	<i>s.</i>	<i>d.</i>	<i>q.</i>	<i>l.</i>	<i>s.</i>	<i>d.</i>	<i>q.</i>	<i>l.</i>	<i>s.</i>	<i>d.</i>	<i>q.</i>
1	0	0	3	10	0	4	00	00	0	4	00	00
2	0	0	6	20	0	8	00	00	0	9	00	00
3	0	0	9	30	1	0	00	00	1	2	00	00
4	0	1	0	30	1	4	00	00	1	7	00	00
5	0	1	4	00	1	8	00	00	2	0	00	00
6	0	1	7	20	2	0	00	00	2	4	00	00
7	0	1	10	30	2	4	00	00	2	9	00	00
8	0	2	2	00	2	8	00	00	3	2	00	00
9	0	2	5	10	3	0	00	00	3	7	00	00
10	0	2	8	00	3	4	00	00	4	0	00	00
20	0	5	4	00	6	8	00	00	8	0	00	00
30	0	8	0	00	10	0	00	00	12	0	00	00
40	0	10	8	00	13	4	00	00	16	0	00	00
50	0	13	4	00	16	8	01	00	0	0	00	00
60	0	16	0	01	0	0	01	00	4	0	00	00
70	0	18	8	01	3	4	01	00	8	0	00	00
80	1	1	4	01	6	8	01	00	12	0	00	00
90	1	4	0	01	10	0	01	00	16	0	00	00
100	1	6	8	01	13	4	02	00	0	0	00	00
200	2	13	4	03	6	8	04	00	0	0	00	00
300	4	0	0	05	0	0	06	00	9	0	00	00
400	5	6	8	06	13	4	08	00	0	0	00	00
500	6	13	4	08	6	8	010	00	0	0	00	00
600	8	0	0	010	0	0	012	00	0	0	00	00
700	9	6	8	011	13	4	014	00	0	0	00	00
800	10	13	4	013	6	8	016	00	0	0	00	00
900	12	0	0	015	0	0	018	00	0	0	00	00
1000	13	6	8	016	13	4	020	00	0	0	00	00

A Table wewing the Interest due upon any Sum of Money, from 20 Shilling to 1500 Pounds, and from one Moneths time to a year: Cal-  
culated at the rate of 4 l. per Cent.

Simple Interest, at

Principal	VII Moneths.				VIII Moneths.				IX Moneths.					
	l.	s.	d.	q.	l.	s.	d.	q.	l.	s.	d.	q.		
1	0	1	0	5	2	0	0	6	2	0	1	0	7	1
2	0	2	0	11	0	0	1	1	0	0	2	1	2	2
3	0	3	0	1	4	2	0	1	7	2	0	3	1	3
4	0	4	0	1	10	0	0	2	2	0	0	4	2	0
5	0	5	0	2	3	2	0	2	8	2	0	5	3	1
6	0	6	0	2	9	0	0	3	3	0	0	6	4	2
7	0	7	0	3	2	2	0	3	9	2	0	7	5	3
8	0	8	0	3	8	0	0	4	4	0	0	8	6	4
9	0	9	0	4	1	3	0	4	10	1	0	9	7	5
10	0	10	0	4	8	0	0	5	4	0	0	10	8	6
20	0	20	0	9	4	0	0	10	8	0	0	20	16	0
30	0	30	0	14	0	0	0	16	0	0	0	30	24	0
40	0	40	0	18	8	0	0	1	4	0	0	40	32	0
50	1	50	0	3	4	0	0	6	8	0	0	50	40	0
60	1	60	0	8	0	0	0	12	0	0	0	60	48	0
70	1	70	0	12	8	0	0	17	4	0	0	70	56	0
80	1	80	0	17	4	0	0	2	8	0	0	80	64	0
90	2	90	0	2	0	0	0	8	0	0	0	90	72	0
100	2	100	0	6	8	0	0	13	4	0	0	100	80	0
200	4	200	0	13	4	0	0	5	6	8	0	200	160	0
300	7	300	0	0	0	0	0	8	0	0	0	300	240	0
400	9	400	0	6	8	0	0	10	13	4	0	400	320	0
500	11	500	0	13	4	0	0	13	6	8	0	500	400	0
600	14	600	0	0	0	0	0	16	0	0	0	600	480	0
700	16	700	0	6	8	0	0	18	13	4	0	700	560	0
800	18	800	0	13	4	0	0	21	6	8	0	800	640	0
900	21	900	0	0	0	0	0	24	0	0	0	900	720	0
1000	23	1000	0	6	8	0	0	26	13	4	0	1000	800	0

A Table shewing the Interest due upon any Sum of Money from 20 Shillings to 1500 Pounds, and from one Moneths time to a Year: Calculated at the Rate of 4*l.* per Cent.

4 per Cent. for

Principal	X.				XI				A			
	Moneths.				Moneths.				Year.			
	l.	s.	d.	q.	l.	s.	d.	q.	l.	s.	d.	q.
1	0	0	8	0	0	0	8	3	0	0	9	2
2	0	1	4	0	0	1	5	2	0	1	6	0
3	0	2	0	0	0	2	2	1	0	2	3	2
4	0	2	8	0	0	1	0	0	1	3	1	0
5	0	3	4	0	0	1	8	3	0	3	10	0
6	0	4	0	0	0	2	5	2	0	4	8	2
7	0	4	8	0	0	3	2	1	0	5	5	2
8	0	5	4	0	0	4	0	0	0	6	3	0
9	0	6	0	0	0	4	8	3	0	7	0	2
10	0	6	8	0	0	7	4	0	0	8	0	0
20	0	13	4	0	0	14	8	0	0	16	0	0
30	1	0	0	0	1	2	0	0	1	4	0	0
40	1	6	8	0	1	9	4	0	1	12	0	0
50	1	13	4	0	1	16	8	0	2	0	0	0
60	2	0	0	0	2	4	0	0	2	8	0	0
70	2	6	8	0	2	11	4	0	2	16	0	0
80	2	13	4	0	2	18	8	0	3	4	0	0
90	3	0	0	0	3	6	0	0	3	12	0	0
100	3	6	8	0	3	13	4	0	4	0	0	0
200	6	13	4	0	7	6	8	0	8	0	0	0
300	10	0	0	0	11	0	0	0	12	0	0	0
400	13	6	8	0	14	13	4	0	16	0	0	0
500	16	13	4	0	18	6	8	0	20	0	0	0
600	20	0	0	0	22	0	0	0	24	0	0	0
700	23	6	8	0	25	13	4	0	28	0	0	0
800	26	13	4	0	29	6	8	0	32	0	0	0
900	30	0	0	0	33	0	0	0	36	0	0	0
1000	33	6	8	0	36	13	4	0	40	0	0	0

A Table shewing the Interest due upon any Sum of Money from 20 Shillings to 1500 pounds, and from one Moneths time to a year: Calculated at the Rate of 5 *l.* in the hundred.

Simple Interest, at

Principa.	I Moneth.			II Months.			III Months.		
	l.	s.	d.	l.	s.	d.	l.	s.	d.
1	0	0	1	0	0	2	0	0	3
2	0	0	2	0	0	4	0	0	6
3	0	0	3	0	0	6	0	0	9
4	0	0	4	0	0	8	0	1	0
5	0	0	5	0	0	10	0	1	3
6	0	0	6	0	1	0	0	1	6
7	0	0	7	0	1	2	0	1	9
8	0	0	8	0	1	4	0	2	0
9	0	0	9	0	1	6	0	2	3
10	0	0	10	0	1	8	0	2	6
20	0	1	8	0	3	4	0	5	0
30	0	2	6	0	5	0	0	7	6
40	0	3	4	0	6	8	0	10	0
50	0	4	2	0	8	4	0	12	6
60	0	5	0	0	10	0	0	15	0
70	0	5	10	0	11	8	0	17	6
80	0	6	8	0	13	4	1	0	0
90	0	7	6	0	15	0	1	2	6
100	0	8	4	0	16	8	1	5	0
200	0	16	8	1	13	4	2	10	0
300	1	5	0	2	10	0	3	15	0
400	1	13	4	3	6	8	5	0	0
500	2	1	8	4	3	4	6	5	0
600	2	10	0	5	0	0	7	10	0
700	2	18	4	5	16	8	8	15	0
800	3	6	8	6	13	4	10	0	0
900	3	15	0	7	10	0	11	5	0
1000	4	3	4	8	6	8	12	10	0
1500	6	5	0	12	10	0	18	15	0

A Table shewing the Interest due upon any Sum of Money from 20 Shillings to 1500 pounds, and from one Monethstime to a Year: Calculated at the Rate of 5  $\text{£}$ . in the hundred.

5 per Cent. for									
Principal	IV Moneths.			V Moneths			VI Moneths		
	l.	s.	d.	l.	s.	d.	l.	s.	d.
1	0	0	4	0	0	5	0	0	6
2	0	0	8	0	0	10	0	1	0
3	0	1	0	0	1	3	0	1	6
4	0	1	4	0	1	8	0	2	0
5	0	1	8	0	2	1	0	2	6
6	0	2	0	0	2	6	0	3	0
7	0	2	4	0	2	11	0	3	6
8	0	2	8	0	3	4	0	4	0
9	0	3	0	0	3	9	0	4	6
10	0	3	4	0	4	2	0	5	0
20	0	6	8	0	8	4	0	10	0
30	0	10	0	0	12	6	0	15	0
40	0	13	4	0	16	8	1	0	0
50	0	16	8	1	0	10	1	5	0
60	1	0	0	1	5	0	1	10	0
70	1	3	4	1	9	2	1	15	0
80	1	6	8	1	13	4	2	0	0
90	1	10	0	1	17	6	2	5	0
100	1	13	4	2	1	8	2	10	0
200	3	6	8	4	3	4	5	0	0
300	5	0	0	6	5	0	7	10	0
400	6	13	4	8	6	8	10	0	0
500	8	6	8	10	8	4	12	10	0
600	10	0	0	13	10	0	15	0	0
700	11	13	4	14	1	8	17	10	0
800	13	6	8	16	13	4	20	0	0
900	15	0	0	18	15	0	22	10	0
1000	16	13	4	20	16	8	25	0	0
1500	25	0	0	31	5	0	37	10	0



A Table shewing the Interest due upon any Sum of Money from 20 Shillings to 1500 Pounds, and from one Moneths time to a year : Calculated at the Rate of 5  $\frac{1}{2}$  in the hundred.

Simple Interest, at

Principal	VII Months			VIII Months			IX Months		
	l.	s.	d.	l.	s.	d.	l.	s.	d.
1	0	0	7	0	0	8	0	0	9
2	0	1	2	0	1	4	0	1	6
3	0	1	9	0	2	0	0	2	3
4	0	2	4	0	2	8	0	3	0
5	0	2	11	0	3	4	0	3	9
6	0	3	6	0	4	0	0	4	6
7	0	4	1	0	4	8	0	5	3
8	0	4	8	0	5	4	0	6	0
9	0	5	3	0	6	0	0	6	9
10	0	5	10	0	6	8	0	7	6
20	0	11	8	0	13	4	0	15	0
30	0	17	6	1	0	0	1	2	6
40	1	3	4	1	6	8	1	10	0
50	1	9	2	1	13	4	1	17	6
60	1	15	0	2	0	0	2	5	0
70	2	0	10	2	6	8	2	12	6
80	2	6	8	2	13	4	3	0	0
90	2	12	6	3	0	0	3	7	6
100	2	18	4	3	6	8	3	15	0
200	5	16	8	6	13	4	7	10	0
300	8	15	0	10	0	0	11	5	0
400	11	13	4	13	6	8	15	0	0
500	14	11	8	16	13	4	18	15	0
600	17	10	0	20	0	0	22	10	0
700	20	8	4	23	6	8	26	5	0
800	23	6	8	26	13	4	30	0	0
900	26	5	0	30	0	0	33	15	0
1000	29	3	4	33	6	8	37	10	0
1500	43	15	0	50	0	0	56	5	0

A Table shewing the Interest due upon any Sum of Money from 20 Shillings to 1000 Pounds, and from one Moneths time to a Year: Calculated at the Rate of 5  $\frac{1}{2}$  in the hundred.

Principal	5 per Cent. for									
	X Moneths			XI Moneths			A Year			
	l.	s.	d.	l.	s.	d.	l.	s.	d.	
100	0	0	0	0	0	0	11	0	0	0
200	0	1	8	0	1	0	10	0	0	0
300	0	2	6	0	2	0	9	0	0	0
400	0	3	4	0	3	0	8	0	0	0
500	0	4	2	0	4	0	7	0	0	0
600	0	5	0	0	5	0	6	0	0	0
700	0	5	8	0	6	0	5	0	0	0
800	0	6	4	0	7	0	4	0	0	0
900	0	7	0	0	8	0	3	0	0	0
1000	0	8	0	0	9	0	2	0	0	0
2000	1	16	0	1	18	0	4	11	0	0
3000	1	15	0	1	7	0	6	11	0	0
4000	1	13	4	1	16	8	8	2	0	0
5000	1	11	8	2	5	10	2	10	0	0
6000	2	10	0	2	15	0	3	3	0	0
7000	2	18	4	3	4	2	4	4	0	0
8000	3	6	8	3	13	4	6	4	10	0
9000	3	15	0	4	2	0	7	4	0	0
10000	4	3	4	4	11	8	8	5	0	0
20000	8	6	8	9	3	0	15	0	0	0
30000	12	10	0	13	15	0	20	0	0	0
40000	16	13	4	18	6	8	25	0	0	0
50000	20	10	8	22	18	4	30	0	0	0
60000	25	0	0	27	10	0	35	0	0	0
70000	29	8	4	32	1	8	40	0	0	0
80000	33	6	8	36	13	4	45	0	0	0
90000	37	10	0	41	5	0	50	0	0	0
100000	41	13	4	45	16	8	55	0	0	0
150000	62	18	0	68	15	0				

THE  
**BUILDERS**  
**GUIDE.**

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THE SECOND BOOK

---

Comprehending such general Rules, and necessary Observations, as any wise appertain to the Erection of Houses, or other Edifices, Great or Small,

AND

Declaring the Names, Natures, Qualities and Quantities of the several Materials belonging to Building, with the usual Rates of them: And also of the Works of all Artificers therein Employed.

Whereby Estimates, Valuations and Contracts, may be made without any great Damage either to Builder or VVorkman,

---

*By William Leybourn.*

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London, Printed in the Year, 1684.

THE  
BUILDERS  
GUIDE

Containing the most  
valuable information  
for the use of  
Architects, Surveyors,  
Engineers, and  
Builders.

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Containing the most  
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for the use of  
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With a  
number of  
illustrations  
of the most  
valuable  
buildings.

By  
J. V. COLEMAN  
London, 1840.



THE  
BUILDERS  
GUIDE.

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THE ARGUMENT.

**W**Hereas by means of a most dreadful and lamentable Fire hapning in London on the Second day of September, in the year of our Lord 1666, by reason of which, the most part of that Renowned and Honoured City, was within the compass of a few days, burnt down and destroyed, and now lies buried in its own Ruins. For the speedy Restauration whereof, and for the Re-edifying of the same, the Kings Majesty, together with the assent and consent of the Lords and Commons in Parliament Assembled, have (by Act of Parliament, bearing date Anno 19 Caroli Regis) prescribed Rules and Orders for the Rebuilding thereof

thereof both in manner and form ; and for that end, have published to the World these their intentions and desires, with strict penalties upon the neglect or breach of what they have there Prescribed and Enacted.

In order whereunto ; and to give some light and insight into the Art of Building, unto such as are ignorant thereof, I have collected, and from the experience I have gained by conversing with Workmen, delivered such general Rules thereunto appertaining, that any person concerned, may reap some benefit thereby ; and be able (in some measure) to give a reasonable estimate of his Charge in the Erecting of such or such a Fabrick. And I shall begin first with the Materials, their Quality, & Dimensions.

Catechizeta. } Interlocutors.  
Precator. }

P. **W**Hat are those which you call the Materials belonging to Building ?

C. Brick, Tile, Timber, Iron, Lead, Laths, Nails, Lime, Sand, &c.

P. Of what are Bricks made ?

C. Bricks are made of a Reddish Earth, which ought to be digged up in the Winter, but not made



made into Brick till the Spring season, in which the goodness of the Bricks in Building is a main thing to be looked into, both for their quality and quantity.

*P. How shall I chuse good Bricks?*

*C.* In every Clampe or Brick-keele (besides the goodness or the badness of the Earth, and the well or ill ordering of the Clay) there are three degrees of Brick in goodness.

*P. Which be they?*

*C.* The first and best sort are those, which in burning, lie next the fire in the Keele, which if they have much of Salt-peter in them, they will run, and be as it were glazed all over; and these for lasting, exceed all the rest in that Keele although the Earth and making be the same.

The second and most general sort for building, are those which lie next in the Keele, to those before mentioned.

The third and worst sort, are those that lie on the outside of the Keele, where the fire hath not so much power as it hath over those nearer; and of these (outside Bricks) those that lie on the wind-side of the Clampe or Keele in the time of Burning, are the worst of all, for they will molder and turn to dust.

*P. Of what bigness ought every Brick to be; is there only one, or are there different sizes?*

*C.* There are several sizes, but the Statute allows but one; neither doth the Law take cognisance of any other.

*P. And what are the Scantlings of a Brick by the Statute?*

*C.* The Molds in which Bricks are made,

R

ought

ought to be in length in the inside 9 inches, in breadth 4 inches and an half; and in depth or thickness 2 inches and a quarter, of which size the Brick ought to be; but you shall seldom find them to hold out so, for the drying and burning will abate something in the thickness, but little in the breadth; and in the length inconsiderable.

*P. How are Bricks rated and sold?*

*C.* By the Thousand; but for their price it is uncertain, in respect of Work-mens wages, the convenience of Carriage, and the price of Fuel to burn them with. In London I have known them at several Rates, as from 9s. to 18s. the Thousand. But for the making, the Molder (besides his Attendants) hath between 4d. and 6d. a 1000. and about 9000 is accounted a reasonable days work.

*P. What quantity of Bricks can a Bricklayer lay in a day?*

*C.* A Bricklayer with a diligent Labourer, in sound and new work, (all materials being ready) may lay 1000 Bricks and upwards in a day; and 4500 Bricks will make one Rod of Wall, or of the side of a Building, at one Brick and half thick, the Rod, Pole, or Perch, containing 16 foot and a half of Superficial measure; of which I shall have occasion farther to speak anon.

*P. In what are the Bricks laid?*

*C.* In Mortar.

*P. What is Mortar made of?*

*C.* Lime and Sand.

*P. What quantity of Lime and Sand will make Mortar sufficient to lay 4500 of Bricks, which you say will make a Rod of Wall?*

*C.* To

**C.** To every 4500 Of Bricks, one hundred and a quarter of Lime, and two Load and a half of Sand.

**P.** What rates do they usually give for Lime and Sand?

**C.** The price of both are various, and the Measure of Lime (in some places) being eight heaped Bushels; but about London, Lime is usually 10 s. the Hundred (but not always,) and Sand about 3 s. the Load.

**P.** By what you have said, I shall be able; I hope, to make choice of good Bricks, and see that they be of a true gage; and by knowing what quantity of Bricks will serve for any piece of Work, I shall be able to make provision of Lime and Sand answerable thereunto. But concerning Tiles, How are they made; and of what size ought they to be?

**C.** Tiles are made of Earth much better than Bricks, inclining to the which Potters use for their Ware. And of Tiles there are divers kinds; but for Building principally two sorts, those are Plain Tiles, and Ridge Tiles. The length of a Plain Tile is usually 10 inches and a half, its breadth 6 inches, and its thickness near three quarters of an inch.

**P.** How are Tiles rated and sold?

**C.** As Bricks are by the Thousand, about 22 or 23 hundred weight grosse, they account a Load, one Tile weight about 2 pound and an half, so that about 1000 Tiles will make a Load.

**P.** How are Tiles hanged on the Roof of a House?

**R** 2

**C.** Upon

C. Upon Laths, with Tile-pins, and laid in Mortar.

P. How do they measure or rate their Tiling?

C. By the Square, which is ten foot every way.

P. What quantity of Mortar will be required to every Square of Tiling?

C. About a quarter-part of what is allowed for a Rod of Brickwork, but it ought to be dryer, and better wrought.

P. Of what Wood, and of what Scantlings ought Laths to be?

C. There are principally two sorts of Laths allowed by Statute, the one of 5 foot long, the other of 4 foot, those of 5 foot, have five score or 100 in the bundle; the other of 4 foot, have six score or 120 in the bundle: But either sort ought to contain in breadth, one inch and an half, and in thickness half an inch. And of either of these lengths, there are three sorts; First, Heart of Oak; Secondly, Sap Laths; and Thirdly, Deal Laths.

P. At what rates do they sell these Laths?

C. The price must needs be various, for that there is so great a disparity in the Commodity, but the prizes are generally between a Shilling and half a Crown the Bundle; but the general rate for Heart Leaths, is about 20 d. the Bundle.

P. What is the reason of these different lengths, and goodness of stufte of which they are made?

C. The reason of these different lengths is, because all Rasters upon which the Laths are nailed, are not spaced at a like distance. And for the goodness of the stuff, those of Heart of Oak,

Oak, being the best, are most necessary for Tiling: the second sort of Sap Laths, are for plaistered Walls, and those of Deal for Cielings.

P. *At what distance are Laths laid upon the Roof of a House one from another.*

C. The distance is various, differing more in some places, than in other parts; but 3 inches and an half, and 4 inches, are usual distances, with a Counter-Lath between Rafter and Rafter, or two, if the Rafters stand at a very large distance.

P. *What quantity of Nails will be expended in laying of a Bundle of Laths?*

C. To the Laths of five foot long 500 Nails, and to the other of four foot long 600 Nails, six score to the hundred.

P. *How many Laths and Tiles will cover a yard, or three foot; every way?*

C. Threescore Tiles laid at a 7 inch gange, will cover a yard; but Tiling, as I said before, is measured by the Square, that is, 10 foot every where, in all 100 foot, which will require 665 Tiles, or thereabouts, and one bundle of Laths; and one Tiler in a day, will cover such a Square.

P. *But if the Tiles be broken much, then there must needs be loss.*

C. 'Tis true, there is loss and trouble to the Workman; but these broken Tiles, and half Tiles, will prove useful at the Eaves, at Straits, in Valleys, at Gable ends, &c. And here note, That the Barge Courses in any Building must be struck with Lime and hair Mortar, and also

rendered, to prevent the Winds from ripping off the Tyling.

P. You mentioned another sort of Tyle even now, which you called Ridge Tyles, to what use serve they?

C. They serve to cover the Ridge or top of the Building, and for every 1000 of plain Tiles, you have ten Ridge Tiles. To these I might have added a third sort, which is a *Triangular Tile*, broad at the bottom, and growing narrow towards the top, and are commonly called Corner Tyles. And their rate is between 10 s. and 15 s. the hundred.

P. I am very well satisfied concerning Bricks and Tiles, and the appurtenances belonging to the use of them in Building, as Lime, Sand, Laths, Nails, &c. Now Sir, would you please to give me the like insight into Timber.

C. Some generals I will give you; but know that Timber is of divers kinds, and dearer or cheaper, according as the place where it is so used, is nearer or farther off, and the plenty or scarcity of the Commodity, which can have no Statute Law set upon the growth of it, yet the Law hath made such provision (I wish it were better put in Execution) for the planting in this Kingdome; wherefore only take notice in this place, that 50 foot of Rough Timber, is counted a Load, and for Squared Timber. fit for Building, these following are proportioned both for depth and thickness, or rather the sides of the Square at the end of the piece, Thus;

Summers



	foot	foot		inch.	inch.
Summers	14	16	In length must be in their Square.	11	8
or Girders	16	20		13	9
from —	20 to 23	23		14 &	10
	23	26		16	12
	26	28		17	14

	feet		in.	in.
Joyts of	11 $\frac{1}{2}$	In Length must	8	3
	10 $\frac{1}{2}$	be in their	7 &	3
		Square, —	6	3

	foot	foot		in.	in.
Binding &	7 to 11 $\frac{1}{2}$	In Length	6	5	
Trimming		must be in	7 &	5	
Joyts, from		their Square,	8	5	

			in.	in.
Wall, Plates and Beams, of any			7	5
Length from 15 foot, may have			10 &	6
in their Squares — — — —			8	6

	foot	foot		in.	in.
Purlynes	15 $\frac{1}{2}$	18 $\frac{1}{2}$	In Length must have in their Square — —	9	8
from —	to			&	
	18 $\frac{1}{2}$	21 $\frac{1}{2}$		12	9

	foot	foot		in.	in.	in.
Principal	12 $\frac{1}{2}$	14 $\frac{1}{2}$	In Length must have in their Square on one side	8	5	6
Rafters	14 $\frac{1}{2}$	18 $\frac{1}{2}$		9	7	7
cut Ta-	18 $\frac{1}{2}$ to 21 $\frac{1}{2}$	21 $\frac{1}{2}$		10 to 8		8
per from	21 $\frac{1}{2}$	24 $\frac{1}{2}$		12	9	8
	24 $\frac{1}{2}$	26 $\frac{1}{2}$		12	9	9

	feet		in.	in.
Single Rafters	6 $\frac{1}{2}$	Must have	4	3 $\frac{1}{2}$
in Length from	0	In their	&	
6 $\frac{1}{2}$ to 9 $\frac{1}{2}$ —	9 $\frac{1}{2}$	Square	5	4
	foot		in.	in.
Principal dis-	10	Must have	13	12
charges of any		in their		
Length from	upward	Square	15	13

And these are the principal Timbers belonging to the erection of any ordinary Edifice, either great or small; but Carpenters usually VVork by the Square of 10 foot: of which more in due place.

P. *You have well satisfied me in all the fore-mentioned Materials, and I think you mentioned Lead amongst the rest.*

C. I did so, and it is a Material one, and chiefly used for the covering of Churches, Halls, and other publick places; but in common Buildings, it is chiefly used for Gutters, and Pipes, to convey the water, and carry it cleer off the House into some convenient place; for which use, the thinnest is most used, as being most pliable. One foot of this Lead (if new) weigheth 8 or 9 pound, but if old, less, as 6 or 7, and the longer it hath lain, the more it will run to waste in the melting.

P. *What allowance is given for such waste.*

C. There is commonly allowed about 3 s. in every hundred weight for waste and workmanship, and in covering a House with Lead (which is lighter than Tiles) although 100 weight will cover

cover a yard square, yet it will be much dearer than Tiling; for that Soder is at 9 d. 10 d. nay sometimes at 12 d. per pound, as it it allay'd with Lead.

P. Methinks that Iron is a very considerable material in the erecting of a house; for besides Nails, there are divers other things appertaining to a House.

C. There are so; As Dogs of Iron, Bolts, Staples, Hinges, Hooks, Window bars, &c. all which are commonly made at 3 d. half penny or 4 d. a pound.

P. But will they make all other Iron work belonging to a house, at that rate?

C. No; for Casements are not valued by the weight, but according as they are large, strong, and good, the workmanship in their Locks and Hinges; so are these commodities valued, as from 3 s. to 20 s. a Casement. As Casements about 2 foot and an half in length, about 4 s. or 4 s. 6 d. a piece. Folding Casements of the like bigness, with the Bolts, Hinges, &c. about 12 s. or 13 s. a pair. Plain Casements of 4 foot, or thereabout, at 5 s. or 5 s. 6 d. the pair; and large folding Casements according to that bigness, and sometimes larger, at 16, 18, or 20 s. the pair.

P. A very considerable difference.

C. The like for Locks and Keys; they are all to be rated according to their largeness and goodness of work.

P. Concerning Glass, I would be satisfied in that also, both in the quality and quantity.

C. The Glass which we use here in England,

is that which is made at *New-Castle* and *Woolledge*; the size of those Tables into which they make them; do contain about 5 foot; 45 of these Tables do go to a Case, the price uncertain, for when Coals are plenty, Glass is cheap, and when there is a scarcity of Coals in *London*, then Glass is dear, not that they want Coals at *New-Castle*, but, because they have no other conveyance for their Glass from *New-Castle* hither, but by the Coal-ships; so that sometimes it is at 25 s. and sometimes at 40 s. the Case.

*P. If the Glass be worth so much whole, it must needs be dearer when it is cut into Squares or Quarries.*

*C.* To cut a Case into Quarries Diamond-fashion (with halves, quarters, and three quarters of Quarries, as the Glass falls out) it is worth about 6 or 7 s. and this form improves the Glass best, for that there is little loss. Of these Quarries there are several forms, some bigger, some lesser; but the most general size is six inches from angle to angle one way, and 4 inches the other.

*P. How many of these Pains of Glass do go to a foot?*

*C.* Every Quarry of this size contains 12 inches, and consequently there should be 12 Quarries in a foot, but between 10 and 12 (counting halves and quarters) do usually make a foot, the Lead supplying the remainder. And a foot of this Glass being banded and set up, 5 d. or 6 d. a foot is a usual rate; but in measuring, Casements must be measured to the length and breadth of the Iron and Oval Windows (if any) they

they must be measured as if they were square Windows of such a length and breadth, for that there is more trouble in them, than in plain Work. There is another sort of Glass used here in *England*, which is called *Normandy Glass*; of this Glass, 25 Tables make a Case; it is thinner, clearer, and more transparent than the other, and is much dearer, and is commonly cut into long squares.

*P. I had almost forgot the Plasterer: how do they work, by what measure, and at what rates?*

*C.* They do work by the yard square, and their prizes are various according to their several works: As plastering upon the bare walls is usually 3 *d.* or 4 *d.* the yard square, upon bare Laths, from 9 *d.* to 1 *s.* 2 *d.* and the like for plain Seilings. Rendering the inside of walls, they value at about 3 *d.* the yard. Rough-cast upon Heart-Lath, workmanship and all materials found, is reckoned from 1 *d.* to 3 *d.* the yard. Plastering upon Brick-work, in imitation of Stone, with finishing Mortar, from 12 *d.* to 1 *s.* 6 *d.* the yard; and that work upon Heart-Lath, at 2 *s.* and 3 *s.* the yard; in all which works, the Scaffolding is to be considered.

*P. I have troubled you sufficiently at this time; but yet the Painter is wanting.*

*C.* For Doors, Windows, Architraves, Frieses, Cornishes, and all other Timbers belonging to a House exposed to the weather, they are usually laid in Oil, after the rate of 3 *d.* or 3 *d.* half penny the yard square, so often as they shall lay them; three times is sufficient, of which the first time spends as much Oil as both the other

other, besides stopping. For Lights or Window-cases, they are usually not measured, but valued by the light, as at 3 *d.* 4 *d.* or 6 *d.* the light, according as they are in greatness. In the measuring of their work, they run a string over all where the Brush goes; but sometimes in Rails, and Banisters, they will measure it as if it were flat measure. I have seen the experiment tried, and the difference would not countervalue the trouble of Girting.

*P. For Paving, how do men deal for that?*

*C.* The Pavings within doors, are principally of two kinds, the one with square Tiles, the other with Free-stone; and these kinds of Pavings, are chiefly for publique places in and about a House, as Court-yards, Halls, Kitchens, Wash-houses, and the like. The paving with square Tiles, is valued by the square, and the dearer the smaller the Tiles are; for these kind of Tiles are of several sizes, some of 6; some of 8; others of 10; and some of 12 inches square; their price is from 6 *s.* to 20 *s.* the hundred; they are laid in Mortar as Bricks, and other plain Tiles are.

For paving with Free-stone, as it is taken out of the Quarrie, the usual rate is 7 *d.* or 8 *d.* a foot square for Stone and Workmanship; but if the Stones be squared to a size, and ruled smooth, it is then dearer, as 12 *d.* or 14 *d.* a foot.

Paving with Marble, of which there are commonly for Pavement used three sorts, viz. White, Black, and Grey; they are most commonly used for the paving of Chimney-hearths, and laid Lozenge wayes, one of white, another

of



of black, laid angle to angle; and this kind of paving, for Stone and Workmanship, they value at 2 s. 6 d. or 3 s. the foot, the dearer as the Stones are cleaner and well polished.

*P. In the Ornaments, in the inside of a House, a Joiners and Carvers works are considerable.*

*G.* The works of either of these in ordinary buildings at their first erection, is not very material, Rails and Ballisters, for Stair-Cases, Heads, Pendants, Balls, Bandilirs Carved, &c. which particulars are sold or wrought by the dozen, or particularly, according to their dimensions. As Ballisters are rated at one penny the inch upon the Diameter, so that if they be 3 inches upon the Diameter (or over) 3 s. the dozen is usual, 4 inches 4 s. and 6 inches, 6 s. the dozen. The like for Heads and Pendants; if 5 inches over, 5 d. a piece; if 6, then 6 d. &c. For large Balls of about 12 inches Diameter, 2 s. 6 d. or 3 s. a piece. And for Carving of Bandilirs with flowers, and other works, of about 7 or 8 inches, 5 s. or 5 s. 6 d. more or less, according to the curiosity or slightness of the work.

And thus have I given you a general account of the nature, quality, and goodness of every or most of the materials appertaining to building, with a moderate estimate of their prizes, and what wages is usually given for the workmanship in disposing of them. It resteth now, that I say something more particularly of the Bricklayers and Carpenters work, and how they are usually valued.

*P. In*

*P. In their two Works and Materials, vests the Strefs and charge of a Building.*

*C. It doth so; and know therefore, that Bricklayers do work generally by the Rod, of 16 foot and a half square, for whole Buildings, and Walls; in which works, 4500, or 5000 Bricks, will compleatly lay a Rod, Pole or Perch, measured upon the surface of the Building, or along a Wall.*

*P. I partly understand you, but in Buildings of Houses (and so likewise in Walls) the Wall at the foundation is thickest, at the next Story somewhat less, and the higher you go, the thinner it is.*

*C. It is very true; wherefore, in the measuring of the Bricklayers work, you must note to what height, how far, of the building the wall is 3 bricks thick, how far 2 and a half thick, how high two brick thick, how much one brick and half thick, and how much one single brick thick, and so reduce the several thickneses of the walls all to that of one brick and a half in thickness, and it is of such a thickness, that I say 4500 or 5000 bricks, will lay a compleat Rod or Pole of 16 foot and a half square, measured upon the superficies or outside of the wall or building.*

*P. So then if a Wall be 3 bricks thick, half a Pole, that is, 8 foot and a quarter shall make a Rod square.*

*C. It will so, provided the wall be 16 foot and an half high, otherwise not; for if a Wall be a brick and a half thick, and 8 foot and a quarter (which is half a Rod) high, then there must go two Rods in length (which is 32 foot) to make a Rod square.*

*P. Then*

*P. Then I understand you ; what it wants in height, it must have in length, and if it exceed a Rod in height, it must be less than a Rod in length to make a Rod square.*

*C. You are in the right, and this course is to be observed in Walls chiefly, or in Houses if you girt them, or in a front of many Houses together ; but for a single House or two, a lesser measure than the Rod is best, as the foot or yard, which may be afterwards reduced to the greater measure of the Rod. And here again observe, that if a Wall exceed a brick and half, there must be a proportionable allowance; as a Wall 3 bricks in length is double work, double stuffe, and consequently double charges every way. A wall 2 bricks and half thick, it is in proportion to a wall of a brick and half, as 3 is to 5, wherefore for every three foot thereof, five foot must be allowed, so likewise in the square of 10 foot, or in the Rod of 16 foot and an half ; so a Wall of two bricks thick, exceeds one of a brick and a half by one quarter, and must be so allowed. On the contrary, when a Wall is less then a brick and half, of of a single brick (called a 9 inch Wall) one third part is to be added to equallize a brick and half.*

*P. I apprehend what you say very well ; but for Windows, Doors, &c. which fall amongst the Brick-work, what must be done with them?*

*C. You must measure the whole Fabrick, as if there were no such things, and when you have done, measure all those particulars severally, and add them together, and substract their sum from the general measure, so shall the true measure*

sure of the brick-work remain. And farther note, that in measuring any House; if you take the breadth thereof on the outside of the Wall, you must take the length thereof within, or the length without and the breadth within, which is all one. Also all Peeres, Butteresses, &c. are measured by themselves, and the Copings of Walls must go to the heighth, for the labour in laying, countervalues the bricks saved.

*P. I understand now how they measure, but at what rates do Bricklayers do this work?*

*C.* Variously, according to the dearness or cheapness of the materials, which often rise and fall, but usual rates are 5 *l.* and 5 *l.* 10 *s.* the Rod square of new work; and if bricks be laid in at the builders charge, then 50 *s.* is a usual price; but if the Workman be to reare new Walls, by making good of old ones, then he may deserve 3 *l.* or 3 *l.* 10 *s.* the Rod square.

*P. But is all new work alike, that you make no distinction?*

*C.* No, for Walls which are low, small store of Scaffolding will serve the turn, and in Houses 3 or 4 Stories high; there is much more Scaffolding, besides the bricks on the front of any House which lies near the Street or High Road, are rubbed and made smooth, and at every Story an Architrave; and over the Windows and Doors, the bricks are laid Arching, which is not only ornamental, but (if they be well laid) a strengthening to the building also, and if there be much of this front work, he may deserve 6 *l.* a Rod, which if you agree with the Brick-layer by the great, he may well afford to do, though bricks be at 16 *s.* the thousand.

*P. You*

*P. You have given me good satisfaction in all the particulars I desired concerning the Bricklayer; but for the Tiling, how do they rate that, and measure that?*

*C. they measure their Tiling by the square of 10 foot; and measuring, when they come to Valleys, they are allowed them according to the length at the top Ridge; but that is sometimes too much, and sometimes too little, the trouble being sometimes far more than the Tiles, Laths, and Nails are worth, but discretion in that case must be moderator; the like in Dormer-windows and corners. A square of plain Tiling at 7 inches Gage, will be covered with between 660 and 670 Tiles. And they do value new work, finding Tiles, Mortar, Laths, and Nails, and striking of the Barge-courses, at 30 or 32 s. the square; and for Ripping of old work, and new covering, and making good the old, they account 12 or 14 s. the square, according as they find the old Tiling.*

*P. I think that we have dealt with all now but the Carpenters, and how do they agree and measure their work?*

*C. Carpenters do commonly work by the square of 10 foot, in erecting their Carcas, that is, the framing and setting up with their Partitions, Floors, Rafters, and such like. The proportions of the several Scantlings, for several buildings small and great, you have given you in the Table foregoing, and their work is to be valued according to the goodness of the Timber, and the quantity, and the place, (as was before intimated) and thus in running buildings they*

*L*

*account*

account 15 or 20 s. the square, and some may deserve 30 s. or more, and to a square of a good Carcas, 20 foot of good Timber Rough may be allowed. For flooring, the Timbers of the Scantlings before, serve in most cases, and these well wrought and laid well into the brickwork, as the Summers 10 or 11 inches into the brickwork at either end: These floors are valued as the Carcas was, according to the quantity and goodness of the Timber, and place, and there are several rates, as from 20 s. to 40 s. the square. In framing the Roofs, there is far more trouble than in the rest of the building, and therefore is commonly reckoned 4 or 5 s. in the square more.

*P. Do they add the boarding of the Rooms into this rate?*

*C. No, that is a work by it self, and is various as the other, for they are valued by the square of 10 foot, according to the goodness of the stuff, as from 12 s. to 20 s. the square; but if the boards be found by the builder, then they allow commonly for planing, joynting, and laying of boards, 4 or 5 s. a square, besides Nails, of which 200 is a competent allowance for one square of flooring.*

*P. There is one thing yet remaining, in which if you satisfy me, I think I shall cease farther to trouble you at this time.*

*C. What is that?*

*P. Concerning Doors, Shop Windows, Window Frames, Stairs, Chimneys, and the like.*

*C. Of these I shall give you a particular account; and first of Doors.*

*I. Doors*



1. *Doors* made of plain whole Deal, are valued commonly at 3 *d.* or 4 *d.* the foot, if rebated for Stuffs, Nails, Workmanship, &c. but double doors Battened, and made Wainscote fashion, they are about 7 *d.* the foot; and in these you may rise and fall your price as you please, as you may in all the rest.

2. *Shop Windows*, These for the Carpenters work are to be valued as the Doors were, and at the same rates; the Iron work at the prizes of ordinary Bolts, Hinges, &c.

3. *Window Frames*, For these they usually agree by the Lights, so that if a Window of Oak have 4 Lights in it, and be double Rabited (as the Carpenters call it) they usually reckon 3 *s.* a Light for materials and workmanship. But if the Builder find Timber and Sawing, then 1 *s.* a Light is fair.

4. *Stairs and Stair-cases*, An ordinary pair of *Stairs* of about 6 and 4 foot, with Flyers and Winders, made of Elm boards, are accounted to be worth 2 *s.* 6 *d.* or 2 *s.* 8 *d.* a step, the workman finding all materials, as Boarding, Nails, &c. but if the materials be found at the Owners charge, then 9 *d.* or 10 *d.* a step for workmanship is a good allowance; But for *Stair Cases*, which have a Well or Light coming from the top to the bottom, with a Landing at every 6th. or 8th step, the Stairs being about 3 foot all the way, these Stairs with the Rails, Ballasters, Posts, Balls, Pendants, and other Ornaments, may very well be worth 4 *s.* 4 *d.* or 4 *s.* 6 *d.* the step.

5. *Chimneys*, the Bricklayer values them by the Rod, and at the same rate as other work.

but then in measuring he Girts them, which (if he find Materials) gives sometimes one third part of bricks more than is used ; but for that, (in respect there is very great difficulty in the true measuring of Chimney work ) they generally agree for so much an Hearth, and the workman taking the whole Stack together, from top to bottom of the building, he finding all Materials, and Plaistering of the insides, between 40 s. and 50 s. a Chimney is a fair rate ; but if the owner find Materials, then about 15 s. is an indifferent price for workmanship. In Cellars, Vaults, and for many other purposes, Arch-work in brick is not only convenient, but necessary for many Professions and Trades. This work the Bricklayer performs by the Rod also. But for that there is trouble in making the frames for to lay the Arch upon, and more Art in laying of the Bricks, he may well deserve 10 or 12 s. a Rod more for this, than for ordinary work. And now I hope I have fully satisfied you.

*P. You have given me very ample satisfaction in every particular : and remembering what you have told me, I shall be the better prepared to deal with my Workmen, than I was before, and shall not ( I am sure ) run into those grand Errors, which too many unadvised Builders daily do.*

*A Supplement to the Second Book, containing Necessary Rules and Observations, deduced from what hath been delivered in the foregoing Dialogue concerning Building.*

**I. In Valuation.**

IN the Preceding Discourse, you have the Names, Natures, Qualities and Prizes, both of Materials which concern building, and of workmens wages, promiscuously inserted, according as the Discourse did give occasion. Now, forasmuch as the chief use of building (for the present) will be in the City of London, where the late Fire made so general a Consummation; The King and Parliament have Prescribed and Enacted a Form and Method for the Re-building of the same; I will here (the foregoing Rules being general) particularly set rates upon the several Materials, and also upon the Works of several Artificers appertaining to building, near unto what they now are; and from those rates, deduce a near Estimate of what Houses of several Dimensions, both in High and Principal Streets, as also in Streets and Lanes of Note, will cost the new erecting; they being built with such Materials, and in the same Manner and form as the Act Enjoyns. Supposing therefore,

	l.	s.	d.
Bricks, the Thousand ———	00	16	00
Tile, the Thousand ———	01	05	00
L 3 ———			Lime,

Time, the Hundred	00	10	00
Sand, the Load	00	03	00
Oak } Timber, the Load	02	15	00
Fir }			
Deal-boards, the Hundred	07	10	00
Laths, the Bundle	00	01	08

*Then for Plasterers Work.*

Lathing, Plastering, Rendering,	00	01	02
and washing with Size, the yard			
Lathing and Plastering, the yard	00	00	10
Plastering and Sizing, the yard	00	00	06

*For Smiths Work.*

For Iron Balconies, the Pound	00	00	15
Folding Casements, the Pair	00	16	00
Ordinary Casements	00	04	06

*For*

Window Frames, the Light	00	03	00
Glazing ordinary, the Foot	00	00	00
Wrought Lead, the Hundred gross	00	18	00

*For Painting.*

Window Lights	00	00	00
Shop Windows, Doors, Pails,	00	10	00
&c. the Yard			

*From*

*From these Rates of Materials for Building, and  
for Workmanship.*

*A House in a high and principal Street, built  
according to the Statute of Car. 2.*

foot	foot	1.	1.
10	44	410	160
18	48	380	100
24	52	350	210
30	56	320	230
36	60	290	185
42	64	260	100
48	68	240	
54	72	210	
60	76	180	
66	80	150	
72	84	120	
78	88	90	
84	92	60	
90	96	30	
96	100	0	

Now forasmuch as the buildings in London  
joyn one upon another, and almost every seve-  
ral house hath a distinct Proprietor, the Parlia-  
ment hath Decreed, that the Wall dividing  
Proprietors Ground, shall be built at the equal  
Charge of both the Owners; it will not be im-  
pertinent to shew how these Party-walls are to  
be valued.

As I said before, all Brickwork, whether it be  
of One, Two, Three, Four, or any other num-  
ber of bricks lengths in thickness, they are all to  
be reduced to the thickness of one brick and  
half.

By what hath been before delivered, you find  
that 4500 of Bricks, One hundred and a quarter  
of Lime, Two Load and a half of Sand, will com-  
pletely raise one Rod of Brickwork of a Brick  
and half thickness. Now,

l.—s.—d.

4500 of Bricks, at 16 s. the 1000 is 00—12—00  
 A hundr. & quarter of Lime, at 10 s. 00—12—06  
 Two Load and a half of Sand, at 3 s. 00—07—06  


---

 In all —04—12—00

And thus much will the Materials of a Rod of a Party-wall reduced to brick and half thick, amount unto at the former supposed rates. To which may be added for Workmanship

01—08—00

The Sum is —06—00—00

So that for every Rod that is in a Party-wall, between Proprietor and Proprietor, they are to allow 3 l. a piece for every Rod of Party-wall, So that if a Party-wall being measured, and the measure reduced to a brick and half, should be found to contain 16 Rod, that 16 being multiplied by 3 l. giveth 48 l. and so much is the one Proprietor to allow the other.

But note by the way, that although this rule here delivered be general, yet the price of the Party-wall shall be more or less, according as materials rise or fall.

## II. In Mensuration.

Whereas throughout this Discourse, there is continual mention made of *Mensuring*, It may be expected that I should say something thereof in this place; but I shall desist, for that



I have long since sufficiently treated of Surveying or Measuring of Land in my Treatise, Entituled, *The Compleat Surveyor*. And for the Mensuration of all manner of Superficies and Solids, I have (in a small Treatise by it self, lately Published, Entituled, *The Line of Proportion made Easie*,) taught how to Measure Timber, Stone, Board, Glass, Pavements, and the like, by a new, easie, and most exact way. And therefore I shall in this place say nothing thereof; only I will give you an account of a Survey of Building, by which you may see the manner and form of measuring; which take as followeth.

*A Survey of Building Erected by M. G. for R. S. the thickness of the Walls (as by agreement) Brick and half, at 3 l. the Rod for Workmanship and Mortar, the Dimensions taken as followeth.*

	foot.	parts	
1. The length of one side—	40	50	} 648 5
From the Foundation to the Raising ———	16		
2. The breadth at one end—	17	16	} 283 14
3. The height to the cross Beam ———	16	5	
3. A partition Wall within	17	16	} 180 18
Height to the first Story. ———	10	5	
4. The length of the other side ———	39	33	} 275 31
From an old Wall to the Raising ———	7		
5. The			

5. The breadth at the other end  $\frac{17}{2}$  } 82 11  
 From the Floor to the Cross Beam  $\frac{14}{2}$  } 83 11

*Particulars to be added.*

6. A Water Table 30 foot } 7 5 } 23 70  
 reduced to  $\frac{16}{2}$  }  
 From the Foundation to the Table  $\frac{3}{2}$  } 16 82  
 7. A setting off on the other side of the house  $\frac{16}{2}$  } 83 } 16 82  
 8. A Gable end  $\frac{66}{2}$  } 33 } 56 88

The Total Area or Content of these Dimensions  $\frac{1575}{2}$  } 787 50

*Particulars to be deducted.*

1. One Door Cafe } Broad  $\frac{9}{2}$  } 42 11 } 58  
 High  $\frac{8}{2}$  } 66 }  
 2. Another Door Cafe } Broad  $\frac{7}{2}$  } 42 11 } 32 11  
 High  $\frac{4}{2}$  } 33 }  
 3. A third Door Cafe } Broad  $\frac{5}{2}$  } 36 11 } 34  
 High  $\frac{4}{2}$  } 33 }  
 4. A Window Cafe } Broad  $\frac{4}{2}$  } 20 11 } 25  
 Deep  $\frac{4}{2}$  } 20 11 }

5. Ano-



## I. Of the Floor.

If the Building be of Brick; Then

**A** Represents the thickness of the Wall, and Lintale or Wall-plate. But in Timber-work it is called a Bressumer.

**B** The Summer.

**C** The Girders framed into the Summer.

**D** The Joynts.

**E** The distance between Joynt and Joynt.

**F** The Timmers for the Chimney way.

**G** The Trimmers for the Stare-Case, or Well-hole for the Stairs.

## II. Of the Roof.

**AB** Represents the half breadth of the House, with Cantalirers, Cornice, and Eaves.

**AC** The length of the Rafters and Furrings, which in Buildings from 20 to 30 foot wide, or thereabouts, must be three quarters of the breadth of the House.

**I** If that is the House be 28 foot broad, the length of the Rafters must be 21 foot.

**J** Jaumes, or Door-Post.

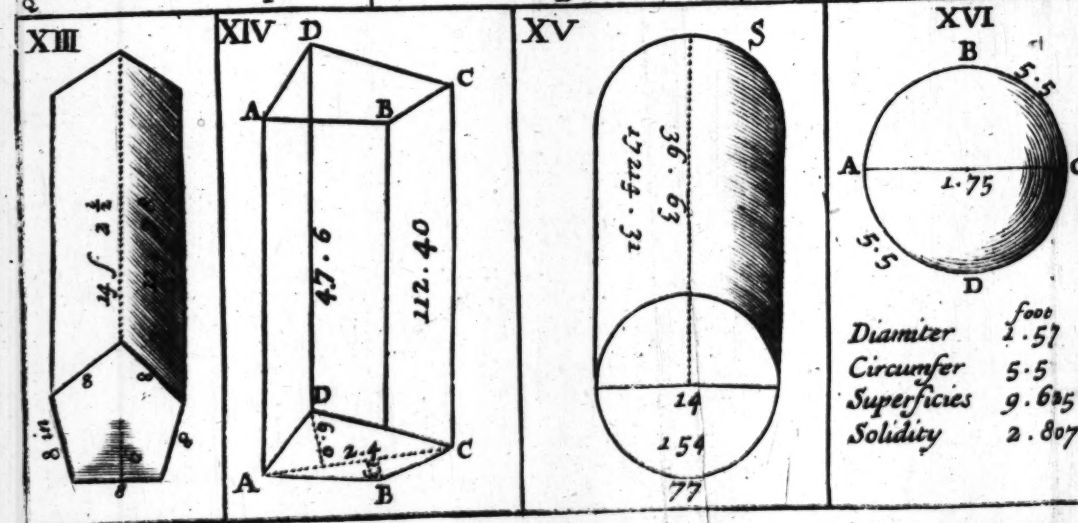
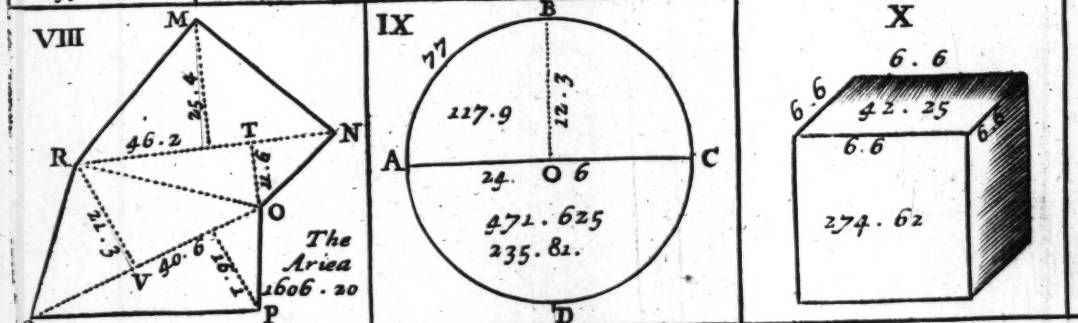
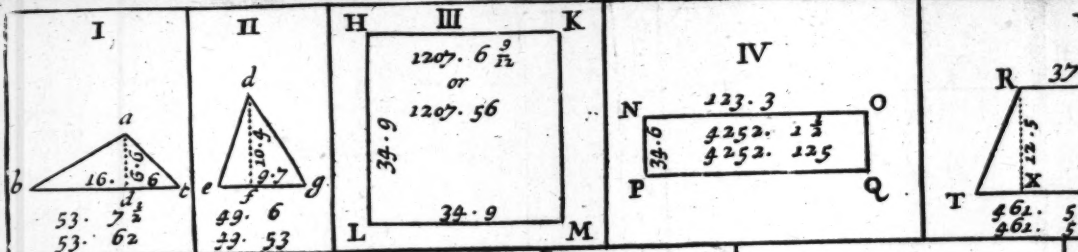
**K** King-piece, or Joggle-piece.

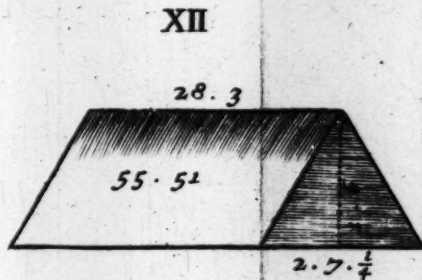
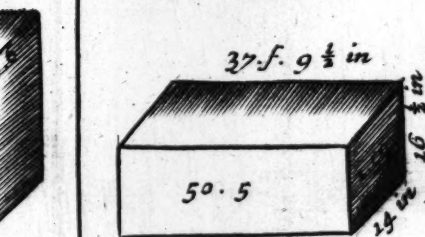
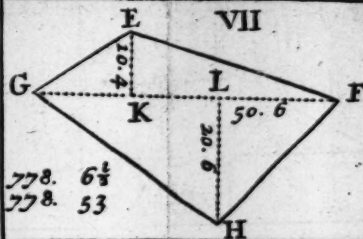
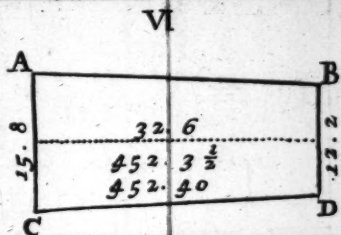
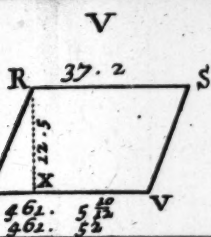
**L** Strutta.

**M** Coller-beam, Strutt-beam, Window-beam, or top-beam.

**N** The Door-head.

**O** Principal Rafters.







- P** Furrings or Shreadings.
- Q** Ends of the Lintels and Pieces.
- R** Bedding Moldings of the Cornice over the Windows, and the Space between.
- S** Knees of the Principal Rafters.
- T** Purling Mortices.

### III. *Of the Timbers in the upright Walls.*

- A** Represents the Ground-plate.
- B** Girders, Binding, Interduces, or Bressummers.
- C** Beam to the Roof, or Girder to the Garret Story.
- D** Principal Post when the building is all Timber, or upright Brick-wall, when of Brick.
- E** Braces.
- F** Quarters.
- G** Interduces.
- H** Brick-post, or Window-post.

### IV. *Of a Cable end.*

- A** The Summer or Beam.
- B** The King-piece, Crown-post, or Joggle-post.
- C** Braces or Strutts.
- D** Principal Rafters.
- E** The Sleeper.
- F** The Purline of the Dormer.
- G** The principal Rafter of the Dormer.
- H** Single Rafters of the Dormer, which stand on the Sleeper and Purline.

**I** The

**I** The Point of the Sleeper.  
**K L** The thickness of the Wall and Lintels, or Wall-plates.

### V. Of a Hip Roof.

**AA** Half the breadth of the Roof 12 foot 6 inches.

**AB** The length of the Hip or Sleeper, 22 foot 6 inches, which you may find by help of the Table of the Square of unequal sided Timber, in the Third Book following; or by the Gunter's Line upon your Ruler thus:

Upon your Line take always the distance between 10 and 9, then setting one foot of the Compasses in the breadth of your house, the other foot will reach downward to the length of your Hip or Sleeper. Thus the house being 25 foot broad, the Compasses opened from 10 to 9, will reach from 25 (the breadth of the house) to 22 foot and a half, the length of the Hip or Sleeper.

**ED** The Perpendicular height of the Roof, which is found by extending the Compasses from *A* to *C*, and drawing the arch line *C G F*, cutting the Lintel in point *E*. So is the Line.

**FC** The perpendicular height of the Roof

## V. Of Flat Roofs.

A The Camber Beam.

B The Principal loged into the Camber-beams at C.

C The Punchions or Braces.

D The Drips to walk on.

E The Battlements.

And thus much at present shall suffice concerning Roofs, and the former general Rules will serve if the building be Square, but if the Roof be Bevel, then the Bevel line shall be the line by which the Back and Hip Rafter shall be made.

VI. Of the Proportions that all sorts of Rooms in a Building ought to have or bear one to another in respect of Length, Breadth, and Height —

Also how Principal Gates, Doors, Windows, Chimneys, Stairs and Stair Cases ought to be proportioned and situate in any Building great or small.

### I. Of Galleries.

FOR Galleries, the length of them ought never to be less than five times their breadth, and their length never to exceed eight times their breadth.

For

For the height of Galleries; Divide the breadth into three parts, and two of them may be the height.—But if you would have the Gallery higher, divide the breadth into seven parts and take Five of them for the height: And either of these are moderate and good Proportions.

## II. Of Halls.

For Halls, the length of them ought to be three times their breadth at the least.

For the height of them, they may be two third parts of their breadth.

## III. Of Chambers.

For the length of a well proportionate Lodging Chamber, ought to be the breadth and half the breadth of the same, or somewhat less; but ought never to exceed that length.

For the height, three quarters of the breadth will be a convenient height.

## IV. Of Gates.

Principal Gates for Entrance, through which Coaches and Wagons are to pass, ought to be in breadth, never less then seven foot; but any number above, yet for a single Passage, not to exceed Eleven foot.

The height of Gates ought to be their breadth and half their breadth, or something more.

For

For common Gates in Inns, where Wagons and Loads of Hay are to go under, their height may be twice their breadth.

### V. Of Inner Doors.

Inner Doors in large Buildings from three foot broad and upwards, ought to be in height twice their breadth.

Inner Doors in lesser Buildings, ought never to be less then two foot and an half in breadth, and five foot and an half high,

### VI. Of Windows.

The Apertures of Windows in middle Buildings, must have four foot and an half, or five foot between the Jaumes, and in greater Buildings unto six and a half, or seven foot: And their height ought to be double the length at the least: But in high Rooms or larger Buildings their height may be a third, a fourth, or half their breadth, more than double their height.

According to these proportions of Windows for the first Story, must all the rest of the Windows in the upper Stories be for their breadth, but for their height, they must diminish: For the second Story may be one third part lower than the first, and the third Story one fourth part lower than the second.

## NH. Of the placing of Doors and Windows.

*These Rules are to be observed.*

*First*, (if possible) let the Doors be right opposite one against another, so that one may see from one end of the House to the other, which will be very graceful and also most convenient, in respect it will cool the House in Summer, by letting the Air through the House; and in Winter to keep the Wind out which way ever it sit.

*Secondly*. Let all the Windows be equal in Rank, so that those on the right hand of the Door may be equal to those on the left hand, and those above to stand directly over those below.

*Thirdly*; It is not only ornamental, but secure, to turn Arches over Doors and Windows, the which will discharge and keep the Doors and Windows from bearing over much weight.

*Fourthly*; See that you set not your Windows too near the Angle of any Building, but leave the Coyne as large as may be with convenience, for that part ought not to be weak, but as strong as may be, the Angle Coyne being the support of the whole Fabrick.

## VII. Of Chimneys.

Chimneys in Halls ought to be within the Work 6 or 7 foot, and in very great Buildings, eight



eight foot between the Jaums; and to be set in such a place as may correspond with the Chimneys in the upper Stairs; and (if possible) let it face the Entrance into the Hall.

The height of the Mantletree ought not to exceed five foot; and let the projecture of the Jaums not exceed 3 foot, or rather not above 2 and an half.

For Chimneys in Chambers, they ought not to be above five, or six foot at the most, between Jaums, their height four foot or four and an half, from the Plate to the Mantletree; and their Projecture not above two foot.

### IX. Of the Funnels of Chimneys.

Let the Funnels be carried through the Roof 3, 4, or 5 foot, that they may carry the smoak into the Air.

Also, Let the Funnel be neither too wide, nor too narrow; if too wide, the wind will drive back the smoak; if too narrow, the smoak is repulsed by the wind and beaten back; wherefore the Funnels for great Chimneys may be 14 or 15 Inches; and for Chamber Chimneys 10 or 11 Inches.

### X. Of Stair-Cases.

Good consideration ought to be taken in the well placing of the Stair-Case in any Building: But ordinarily, the Stairs are placed in the Angles, or on the Wings, or middle of the Front:

But this situation is only proper for great Buildings.

Three openings are necessary to all Buildings.

1. The Door way, which leads to them.
2. The Window or Windows which give light to them.
3. The Landing of the Stairs.

*First*, The Door way which leads to any Stair-Case, ought to be so placed, that the greater part of the Building may be seen before you come at the Stairs; and yet so also situate, that it may be obvious to any stranger to find out.

*Secondly*, For the lights, If it be but one light, let it be placed in the middle of the Stair-Case as near as may be; that thereby the whole Stair-Case may be enlightned thereby: But if more, let one light be in every Story.

*Thirdly*, The Landings of Stairs, for the ready and convenient Entrance into the Rooms above, ought to be as large and spacious as room will afford — In general, Stairs ought to be spacious, light, and easie in ascent, all which are conveniences; and not only so, but great inducements for Strangers to ascend them.

#### XI. *Of the height and breadth of Stairs.*

The Steps of large Stairs, must never be less then four Inches, nor more then six Inches in height.

Their breadth ought never to be less then one foot, nor more then 15 or 16 Inches.

In making of Steps of Stairs, this rule ought to be observed, viz.

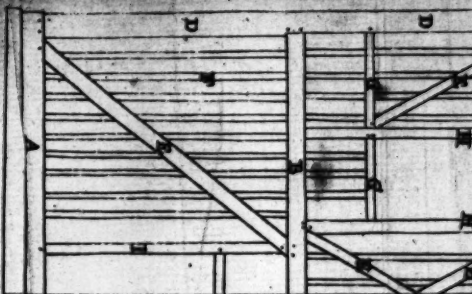
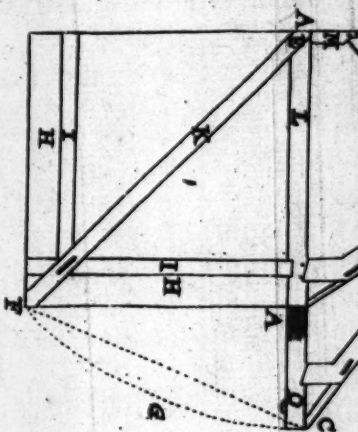
Not to make the number of Steps at every Landing even, but odd; to the end, that beginning to ascend with the right foot (as all Persons are inclinable to do) they may end with the same foot also.

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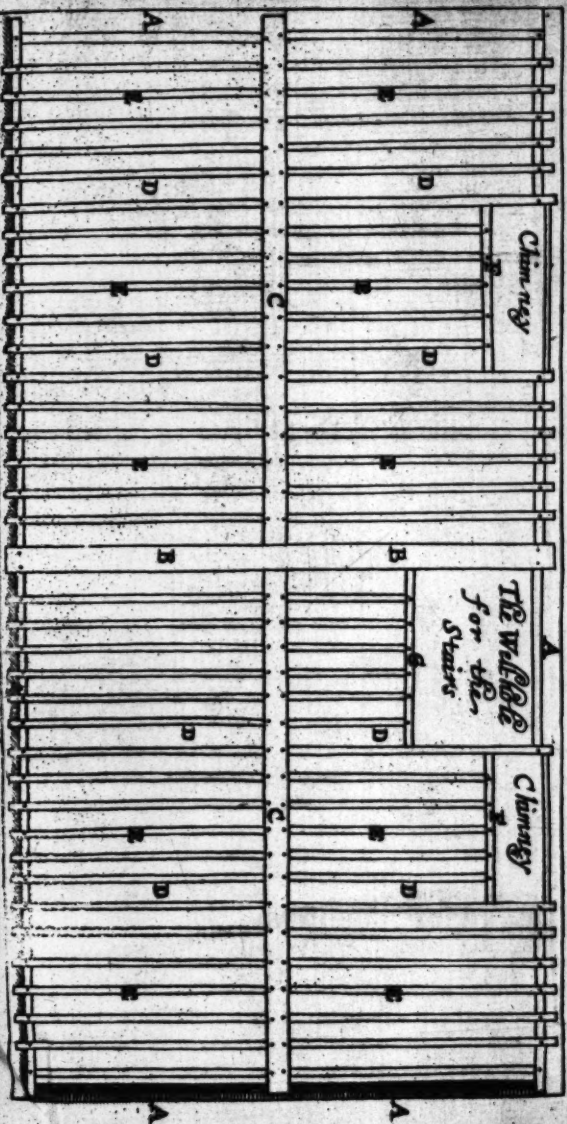
*The End of the Second Book.*

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*A Flat Roof with  
a Crowned Rafter.*

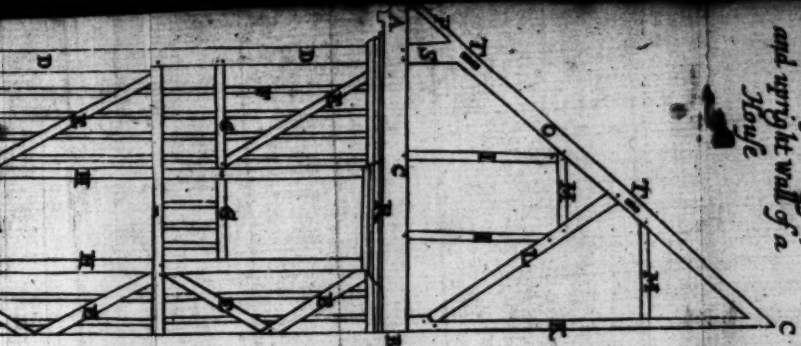


*The Names of the Members of a Floor*

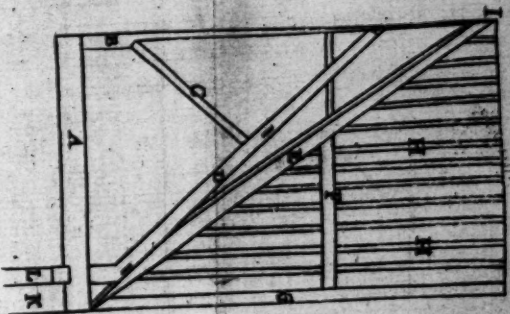


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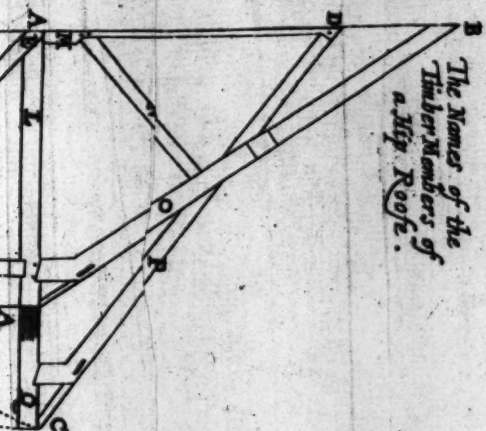
The Names of the Timber  
Members of a Ridge,  
and upright wall of a  
Houfe



A Gable end



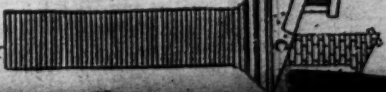
The Names of the  
Timber Members of  
a Hip Roof.



Flat Roofs.



A Flat Roof without  
a Creune Poyle.



A Flat Roof with  
a Creune Poyle.

# A MATE FOR MEASURERS

---

THE THIRD BOOK.

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CONTAINING

## TABLES

Ready Calculated,  
For the Mensuration of all such *Materials*, as  
any wise appertain to *Building*.

AS  
Board, Timber, Stone, &c.

ALSO,  
For the Mensuration of the *Works* of the several  
*Artificers* employed in *Building*.

AS THE  
*Carpenters, Brick-layers, Masons, Plai-  
sterers, Glasiers, Joyners, Painters,  
Paviors, &c.*

Whether their *Works* be measured by the *Foot*,  
*Yard, Square, or Rod.*

The Dimensions being taken only in Feet and  
Inches.

---

By *William Leybourn.*

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London, *Printed in the Year, 1684.*



# A MALE FOR METASTURERS

## TABLES



For the Mention of all the  
and will appear  
Board, Time  
For the Mention of all the  
and will appear  
AS THE  
Created, the  
The Dimensions being  
The Dimensions being

By the  
London

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&c.  
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To the Reader.

**C**Onsidering of what absolute necessity the Art of Measuring is in the Work of Building, as in the buying of the Materials thereunto belonging, as Board, Timber, Stone, &c. And also in the measuring of the Works of the several Artificers employed therein, as Carpenter, Bricklayer, Mason, Plaisterer, Glasier, Joyner, Painter, and Pavier, All which, measure their respective Works either by the Foot, Yard, Square of 10 Foot, Rod, or the like. And also taking notice how few (of the great number of) Artificers are capable of Measuring of their own VVork, although there is scarce one of them, but hath upon his Two-foot Rule, a Line (which he calls Gunter's Line) by which all kind of Measures both Superficial and Solid, may be both speedily and exactly performed; the uses of which Line, I have lately published at large. Yet notwithstanding these helps, I finding (by experience) the deficiency of many Artificers, in this particular, to be such, that they can in

no wise be made capable of understanding  
the same without a Tutor. And again,  
considering the great benefit which will  
redound to such Gentlemen, Citizens, and  
and others, that have occasion to buy Ma-  
terials for, and also to compute the Charge  
of, their Building, themselves in every par-  
ticular, I have here again taken the pains  
to Calculate Tables, by which any person  
(who knows but figures, and can but add  
two numbers together) may be able to  
measure Board, Timber or Stone, As also  
all Carpenters, Bricklayers, Plaisterers,  
Glaziers, Joyners, Painters, or Paviers  
Works, either by the Foot, Yard, Square,  
Rod, or the like, with wonderful ease and  
exactness; measuring only the Length and  
Breadth of the Work (what ever it be) by  
a Two Foot Rule divided into Inches and  
parts; Which Tables, with the Uses of  
them, exemplified in all the forementi-  
oned particulars, are here presented unto  
thee (for thy use and benefit) by,

Will. Leybourn



ETAM, PA. or Pevch.

From hence it follows, That

FOR

# MEASURERS.

## Of Measures in General.

### Measures are of three Kinds.

1. *Lineal.* 2. *Superficial.* 3. *Solid.*

1. *Lineal Measure*, Is the Measuring of any thing that hath only *Length*, without sensible *Breadth* or *Thickness*; As the length of a *Line*, *Chain*, *Pole*, or the like.

2. *Superficial Measure*, Is the measuring of any Substance that hath *Length* and *Breadth* only, without any sensible *Thickness*, as *Land*, *Board*, *Glass*, *Pavement*, *Plastering*, *Painting*, *Wainscoting* of Rooms, &c.

3. *Solid Measure*, Is the measuring of any Substance that hath *Length, Breadth, and Thickness*, as *Timber, Stone, &c.*

Now the Measures confirmed by Statute, and are principally used in England, are these,

**I. A Foot.**

2. A Yard.

### 3. *A Rod, Pole, or Perch.*

**And**

And these Measures have their Original from  
 2 *Barley Corn*, for it is confirmed by the Statute  
 of E. 3. That,

3 *Barley Corns* in length should make an *Inch*,  
 12 *Inches*, a *Foot*.

3 *Foot*, a *Yard*.

16 *Foot* and an half, a *Rod, Pole, or Perch*.

From hence it follows, That

One *Foot* in *Length* contains only 12 inches;  
 But,

A *Foot Superficial*, or in *Length* and *Breadth*,  
 contains 12 times 12 inches, that is, 144 inches.  
 And by this measure, is *Board, Glass, and Pav-*  
*ing with Free Stone*, measured. And,

A *Foot Solid*, consisting of *Length, Breadth,*  
 and *Thickness*, contains 12 *Superficial* feet, that  
 is, 12 times 144 inches, which is 1728 inches.  
 And by this measure is *Timber, Stone*, and such  
 like, measured. Again,

A *Yard* in *Length* contains only 3 *Foot*; but a  
*Yard* in *Length* and *Breadth*, contains 3 times 3  
 foot, that is 9 foot. And by this measure do  
*Plasterers, Painters, Joiners, and Paviers*, mea-  
 sure their work. Likewise,

A *Pole, Rod, or Perch*, contains in *Length*  
 only 16 foot and an half; but a *Rod* in *Length*  
 and *Breadth*, contains 16 times and an half, 16  
 foot and an half, that is 272 foot and a quarter.  
 And by this kind of measure, *Land* and *Brick-*  
*layers work*, as also all manner of digging of  
 Ground for Building, and Rutble in thick Stone  
 Walls, is chiefly measured.

There is another kind of Measure used much  
 in *Building*, but principally in the *Carpenters*  
 and

and Bricklayers Works; and they call it the Square of 10, that is 10 foot in Length, and 10 Foot in Breadth, that is 10 times 10 foot, in all, 100 Foot. And by this Measure Carpenters measure their Flooring, and Bricklayers their Tiling.

Thus much for the Explanation; I will now shew you the Use of the several Tables.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100



**A TABLE** shewing how much in Length of any Board, Plank, Pair of Planks, or the like doth make a Foot Square, the Breadth thereof being given.

The Breadth of the Board in Feet and Inches.	The Length of a Foot Square, in Feet, Inches, and 10th part of Inches.			
	Feet	Inches	10ths	100ths
I	0	12	0	0
	1	0	0	0
	2	0	0	0
	3	0	0	0
	4	0	0	0
	5	2	4	8
	6	2	0	0
	7	1	8	6
	8	1	6	0
	9	1	4	0
	10	1	2	4
	11	1	1	1
II	0	1	0	0
	1	0	11	8
	2	0	10	3
	3	0	9	6
	4	0	9	0
	5	0	8	5
	6	0	8	0
	7	0	7	6
	8	0	7	2
	9	0	6	8
	10	0	6	5
	11	0	6	2
III	0	0	6	0
	1	0	5	8
	2	0	5	5
	3	0	5	3
	4	0	5	1
	5	0	5	0
	6	0	4	8
	7	0	4	7
	8	0	4	5
	9	0	4	4
	10	0	4	2
	11	0	4	1
	12	0	4	0

The Table consists of two Rows or Columns; In the first of which, towards the left hand, is set down the breadth of the board or other thing to be measured, in Feet and Inches; beginning at 1 Inch, and so downwards by 2 Inches, 3 Inches, 4 Inches, &c. to 11 Inches. Then 1 Foot, and still downwards 1 Foot 1 Inch, 1 Foot 2 Inches, &c. to 11 Foot. — Then in the second Row or Column, that towards your right hand: Against any breadth in the first Column, you have how many Feet, Inches, and tenth parts of an Inch in length, do make a Foot Square. The

# The Use of this Table by Examples.

**Example 1.** If a board be 9 inches broad, how much in length of that board will make a foot?

Look for 9 inches, in the first Column of the Table; towards your left hand, and right against it, in the second Column, you shall find 1. 4. 0. which is, 1 foot, 4 inches, and noe parts of an inch; and so much in length, of a board 9 inches broad, must go to make a foot; so that every 16 inches in length, is a foot, and so many times as 16 inches is contained in length of the board, so many foot are there in the board. And so every 8 inches, is a half a foot; And every 4 inches, a quarter of a foot, &c.

**Example 2.** If a board be one foot and 5 inches broad, how much thereof in length shall make a foot?

Look in the Table for 1. foot, 5 inches, in the first Column; and right against it in the second Column; you shall find 0. 8. 5. which is, no feet, 8 inches, and 5 tenth parts of an inch, (which is half an inch, for 5 is the half of 10.) wherefore 8 inches, and 5 tenths of an inch, (or 8 inches and an half) in length, do make a foot, of that board; and so often as 8 inches and half is contained in the length of that board, so many Square or Superficial feet are in it.

**Example**

**Example 3.** *If a board be two foot and 11 inches broad, how much thereof in length, will make a foot Square ?*

Look in the first Column of the Table for II. foot, 11 inches, against which you shall find 0. 4. 1. that is, no feet, 4 inches, and one tenth part of an inch, so that 4 inches, and one tenth part of an inch, in the length of that board will make a foot Square. And so many times as 4 inches, and one tenth part of an inch, is contained in the length of the board, so many square feet are contained therein.

Wherefore take in your compasses 4 inches, and one tenth part of an inch, from your Rule, and run that along the board from end to end, and that will tell you how many feet are contained in the Board.

**Example 4.** *If a board be 3 foot eight inches broad, how much thereof in length, will make a foot square.*

If you look in the Table for 3 foot 8 inches, you cannot find it there, because the Table reacheth only to III foot. or 36 inches broad, and broader you will find few boards. But in case you do, (as in this Example) the Table will still answer your desire.

For, This board being 3 foot 8 inches broad, take the half thereof, which is, I. foot 10 inches, and find that in the Table, against which you shall find 6 inches, and 5 tenths, (or half an inch) and

and so much in length of that board will make 2 foot Square, because you took but half the breadth, or, half 6 inches & tenths, which will be 3 inches, and three tenths (near) will make one foot, you may use which you please.

These Examples are sufficient for the use of this Table, but I will give you Examples in some other Cases.

**Example 5.** *If a Pane of Glass be 8 inches broad; how much thereof in length, will make a foot?*

Look 8 inches in the first Column of the Table, and against it, in the second Column, you shall find 1 foot 6 inches (which is 18 inches) and so much thereof in length will make a foot square; and so running 18 inches along the Pane, so often as you find it in the length, so many foot are in the Pane. But when you come towards the end, if there be any odd measure besides the even 18 inches; you must allow for 9 inches, half a foot; is for 4 inches and a half quarter of a foot; and for 2 inches and a quarter, half a quarter of a foot; and the like you must do in measuring of board, or any other thing of the like kind.

**Example 6.** *There is a Causey or Walk paved with Free-stone, the breadth whereof is 2 foot 5 inches, how much thereof in length will make a foot Square?*

Look for 11. foot 5 inches in the first Column of the Table, and against it you shall find 0. 5. 0.  
N that

that is, no feet, 5 inches, and no parts, so that 5 inches in length thereof, will make a foot Square. Wherefore, so often as 5 inches is contained in the length of the Causey, so many feet are in it; and if at the end there remain any odd measure, being 5 inches makes a foot, 2 inches and a half must make half a foot, and one inch and a quarter, one quarter of a foot, &c.

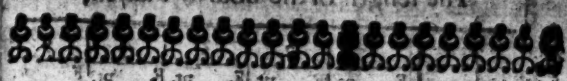
Example 7. If a piece of Glass be 2 inches broad, how much thereof in length, will make a foot?

Look 8 inches in the first Column of the Table, and against it in the second Column, you shall find a foot 6 inches (which is 18 inches) and so much thereof in length will make a foot square; and so running 18 inches along the Table, to observe you find it in the length, so many feet are in the Piece. But when you come towards the end, if there be any odd measure besides the even 18 inches, you must allow for 9 inches, half a foot; for 4 inches and a half quarter of a foot; and for 2 inches and a quarter half a quarter of a foot; and the like you must do in measuring of board, or any other thing of the like kind.

Example 8. There is a Causey or Walk made with Free-stone, the breadth whereof is a foot 7 inches, how much thereof in length will make a foot square?

Look for 11, four 7 inches in the first Column of the Table, and against you shall find 4

The length of the Board in Feet



1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100

# TABLE

OF

Superficial ( or Flat ) Measure ;

AS

Board, Glass, Pavement, or the like ;

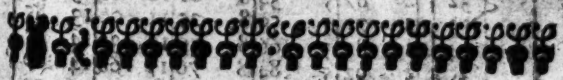
Ready cast up ;

From One Inch to 36 Inches broad,

AND

From One Foot to 20 Foot in length.

And consequently ( by help of Addition only )  
to any Greater Length or Breadth.





# The length of the Board, Planck,

The breadth of the Board, Planck, Pavement, or the like, in Inches	1		2		3		4		5	
	F.	pt.	F.	pt.	F.	pt.	F.	pt.	F.	pt.
1	0	08	0	16	0	24	0	32	0	40
2	0	17	0	34	0	51	0	68	0	85
3	0	25	0	50	0	75	1	00	1	25
4	0	33	0	66	0	99	1	32	1	65
5	0	42	0	84	1	26	1	68	1	10
6	0	50	1	00	1	50	2	00	1	50
7	0	58	1	16	1	74	3	32	1	90
8	0	67	1	14	2	01	2	68	3	35
9	0	75	1	50	2	25	3	00	3	85
10	0	82	1	66	2	49	3	32	4	15
11	0	92	1	84	2	76	3	68	4	60
12	1	00	2	00	3	00	4	00	5	00
13	1	08	2	16	3	24	4	32	5	40
14	1	17	2	34	3	51	4	68	5	85
15	1	25	2	50	3	75	5	00	6	28
16	1	33	2	66	3	99	5	32	6	65
17	1	42	2	84	3	26	5	68	6	10
18	1	50	3	00	4	50	6	00	7	50
19	1	58	3	16	4	74	6	32	7	90
20	1	67	3	34	4	01	6	68	8	35
21	1	75	3	50	4	25	7	00	8	85
22	1	82	3	66	4	49	7	32	9	15
23	1	92	3	84	4	76	7	68	9	60
24	2	00	4	00	5	00	8	00	10	00
25	2	08	4	16	5	24	8	32	10	40
26	2	17	4	34	5	51	8	68	10	85
27	2	25	4	50	5	75	9	00	11	25
28	2	33	4	66	5	99	9	32	11	65
29	2	42	4	84	6	26	9	68	11	10
30	2	50	5	00	6	50	10	00	12	50
31	2	58	5	16	7	74	10	32	12	90
32	2	67	5	34	7	01	10	68	13	35
33	2	75	5	50	7	25	11	00	13	85
34	2	82	5	66	8	49	11	32	14	15
35	2	92	5	84	8	76	11	68	14	60
36	3	00	6	00	9	00	12	00	15	00

# Pavement, of the like, in Feet. T

inch.	6	7	8	9	10	
1	11	12	13	14	15	16
1	11	12	13	14	15	16
2	22	23	24	25	26	27
3	33	34	35	36	37	38
4	44	45	46	47	48	49
5	55	56	57	58	59	60
6	66	67	68	69	70	71
7	77	78	79	80	81	82
8	88	89	90	91	92	93
9	99	100	101	102	103	104
10	110	111	112	113	114	115
11	121	122	123	124	125	126
12	132	133	134	135	136	137
13	143	144	145	146	147	148
14	154	155	156	157	158	159
15	165	166	167	168	169	170
16	176	177	178	179	180	181
17	187	188	189	190	191	192
18	198	199	200	201	202	203
19	209	210	211	212	213	214
20	220	221	222	223	224	225
21	231	232	233	234	235	236
22	242	243	244	245	246	247
23	253	254	255	256	257	258
24	264	265	266	267	268	269
25	275	276	277	278	279	280
26	286	287	288	289	290	291
27	297	298	299	300	301	302
28	308	309	310	311	312	313
29	319	320	321	322	323	324
30	330	331	332	333	334	335
31	341	342	343	344	345	346
32	352	353	354	355	356	357
33	363	364	365	366	367	368
34	374	375	376	377	378	379
35	385	386	387	388	389	390
36	396	397	398	399	400	401
37	407	408	409	410	411	412
38	418	419	420	421	422	423
39	429	430	431	432	433	434
40	440	441	442	443	444	445

# The length of the Board, Planck,

Inch.	11		12		13		14		15	
	F.	pt.	F.	pt.	F.	pt.	F.	pt.	F.	pt.
1	0	88	0	96	1	04	1	12	1	20
2	1	87	2	04	2	21	2	38	2	55
3	2	75	3	00	3	25	3	50	3	75
4	3	63	3	96	4	29	4	62	4	95
5	4	62	5	04	5	40	5	88	5	30
6	5	50	6	00	6	50	6	00	7	50
7	6	38	6	96	7	54	7	12	8	70
8	7	37	8	04	8	71	8	38	10	05
9	8	35	9	00	9	75	10	50	11	25
10	9	13	9	96	10	79	11	62	12	45
11	10	12	11	04	11	96	12	88	13	80
12	11	00	12	00	13	00	14	00	15	00
13	11	88	12	96	14	04	15	12	16	20
14	12	87	14	04	15	21	16	38	17	55
15	13	75	15	00	16	25	17	50	18	75
16	14	63	15	96	17	29	18	62	19	95
17	15	62	17	04	18	40	19	88	21	30
18	16	50	18	00	19	50	21	00	23	50
19	17	38	18	96	20	54	22	12	24	70
20	18	37	20	04	21	71	23	38	25	05
21	19	35	21	00	22	75	24	50	27	25
22	20	13	21	96	23	49	25	62	28	45
23	21	12	23	04	24	96	26	88	29	80
24	22	00	24	00	26	00	28	00	30	00
25	22	88	24	96	27	04	29	12	31	20
26	23	87	26	04	28	21	30	38	32	55
27	24	75	27	00	29	25	31	50	33	75
28	25	63	27	96	30	29	32	62	34	95
29	26	62	29	04	31	46	33	88	36	30
30	27	50	30	00	32	50	35	00	37	50
31	28	38	30	96	33	54	36	12	38	70
32	29	37	32	04	34	71	37	38	40	05
33	30	35	33	00	35	75	38	50	41	25
34	31	13	33	96	36	79	39	62	42	45
35	32	12	35	04	37	96	40	88	43	80
36	33	00	36	00	39	00	42	00	45	00

The Breadth of the Board, Planck, Pavement, or the like, in Inches.

# Pavement, or the like, in Feet.

Inch.	16		17		18		19		20	
	F.	pt.	F.	pt.	F.	pt.	F.	pt.	F.	pt.
1	1	28	1	30	1	44	1	52	1	60
2	2	72	2	89	2	06	2	23	2	40
3	3	00	3	25	3	50	3	75	3	00
4	4	28	4	81	4	94	4	27	4	60
5	5	72	5	14	5	58	5	98	5	40
6	6	00	6	50	6	00	6	50	6	00
7	7	28	7	86	7	10	7	00	7	00
8	8	72	8	39	8	06	8	73	8	40
9	9	00	9	75	9	50	9	14	9	00
10	10	28	10	11	10	94	10	25	10	00
11	11	72	11	64	11	56	11	48	11	40
12	12	00	12	00	12	00	12	00	12	00
13	13	28	13	36	13	44	13	52	13	60
14	14	72	14	89	14	06	14	23	14	40
15	15	00	15	25	15	50	15	75	15	00
16	16	28	16	61	16	94	16	20	16	60
17	17	72	17	14	17	56	17	98	17	40
18	18	00	18	50	18	00	18	50	18	00
19	19	28	19	86	19	44	19	02	19	60
20	20	72	20	39	20	06	20	31	20	40
21	21	00	21	75	21	50	21	35	21	00
22	22	28	22	11	22	94	22	77	22	60
23	23	72	23	64	23	56	23	48	23	40
24	24	00	24	00	24	00	24	00	24	00
25	25	28	25	36	25	44	25	52	25	60
26	26	72	26	89	26	06	26	23	26	40
27	27	00	27	25	27	50	27	75	27	00
28	28	28	28	61	28	94	28	27	28	60
29	29	72	29	14	29	56	29	98	29	40
30	30	00	30	50	30	00	30	50	30	00
31	31	28	31	86	31	44	31	02	31	60
32	32	72	32	39	32	06	32	73	32	40
33	33	00	33	75	33	50	33	25	33	00
34	34	28	34	11	34	94	34	77	34	60
35	35	72	35	64	35	56	35	48	35	40
36	36	00	36	00	36	00	36	00	36	00

*An Explanation of the Table.*

**T**HE foregoing Table shewed how much in length of any board, &c. whose breadth was given, did make a Square foot. But this Table (by having the length and breadth of any Board, &c. given in feet and inches) tells you readily how many feet, and part of a foot, are contained in it.

The Table consisteth of 21 Columns, noted at the head of each of them with Arithmetical figures; 1. 2. 3. 4. &c. to 20, which represent so many feet in the length of any thing to be measured. The first Column of this Table towards the left hand, hath the word *Inches* at the head thereof; and the figures of that Column begin at 1, and go downwards by 1, 2, 3, &c. to 36 inches, representing the breadth of any thing to be measured. So that if you measure the length and breadth of any thing, and find the breadth in the side of the Table, and the length at the head, the number which stands in the common meeting of these two numbers, is the content of the thing so measured in feet, and hundred parts of a foot. The use hereof shall be made evident by Examples.

**Example 1.** *There is a Plank which is 33 inches broad, and 10 feet long; how many square feet is there in that Plank?*

**Find 33 inches (the breadth of the Plank) in the**

the first Column of the Table, towards the left hand, under the word *Inches*. Then, having found 33, look along that line, towards the righthand, till you come to that Column which hath 10 foot (the length of the Plank) at the head of it, and there you shall find 27, 50, which shews, that there is 27 foot, and 50 hundred parts of a foot, (which is half a foot) contained in that Plank, whose breadth is 33 inches, and length 10 foot.

Or, If you look first for 10 foot in the head of the Table, and draw your finger (or cast your eye) down that Column under 10, till you come against 33 in the first Column, you will there also find the same number 27, 50, as before; which is 27 foot and a half.

**Example 2.** *A Glasier hath glazed a window, containing 8 Panes of glass, the depth of each Pane being 29 inches, and the length of all the 8 Panes together, are 13 foot, how many foot of glazing is there in that Window?*

Look for 13 foot at the head of the Table; then look down that Column, till you come against 29 inches in the first Column, and there against 33 inches, and under 13 foot, you shall find 31, 46, which shews that there is 31 foot, and 46 hundred parts of a foot, of glazing in those 8 Panes of Glass; this 46 hundred parts, is almost half a foot, for a foot being divided into 100 parts, 25 parts is a quarter of a foot, 50 parts is half a foot, and 75 parts is three quarters of a foot; and nearer than to a quarter of a foot you need not go.

Ex-



**Example 3.** *A Walk of Free-Stone being 20 foot long, and 30 inches broad, how many square feet are contained therein?*

Look for 20 foot in the head of the Table, and for 30 inches in the first Column, then down that Column, under 20, and against 30 inches in the first Column, you shall find 50, 00, which shews that there is just 50 foot in the Pavement of that Walk which is 20 foot long, and 30 inches, or 2 foot 6 inches broad.

**Example 4.** *There is a foot-pace or Chimney-hearth of Marble, containing 7 foot in length, and 21 inches in breadth, how many foot of Marble is there in that Foot-pace or Hearth?*

Look for 21 inches in the first Column of the Table, and right against it, in that Column which hath 7 at the head thereof, you shall find 12, 25, that is 12 foot, and 25 hundred parts of a foot, which is just a quarter; so there is 12 foot and a quarter of Marble in that Hearth or Foot-pace.

**Example 5.** *A Kitchen is Paved with Free-Stone, which is 18 foot broad, and 19 foot long, how many foot is there in that Kitchen?*

In regard that 18 foot (the breadth of the Kitchen) cannot be found in the first Column of the Table, that going but to 36 inches, or 3 foot, find therefore what the Kitchen would contain if it were only 3 foot, or 36 inches broad, and

19 foot long; find 36 in the first Column, and 19 foot at the head, and against 36, and under 19, you shall find 57, 06, which sheweth, that if the Kitchen had been but 5 foot broad, and 19 foot long, it would have contained 57 foot just; but being it is 28 foot broad, which is 6 times 3 foot, it must therefore needs contain 6 times 57 foot, that is 342 foot; which you may find by setting down 57 six times, and adding them together, if you cannot multiply: Or you may find how much 6 times 57 is, by the foregoing large *Table of Multiplication* in the first part of this Book. And thus must you do, when the breadth given, is larger than this *Table* doth afford; as by taking the half, the quarter, the fifth, the sixth, the seventh, the eighth, or tenth part thereof. Or by taking it out of the *Table* at two or three times, as in the Example following.

*Example 6. There is a Banketting house in a Garden 7 foot long, and 5 foot broad, paved with Marble, how many foot of Paving is there in this Banketting Room?*

Because 5 foot the breadth, exceedeth the number in the *Table*, take half thereof, which is 2 foot and a half, or 30 inches; then find 30 inches in the first Column of the *Table*, and right against it, under 7 foot, you shall find 17, 50, that is 17 foot and half. Now, because 30 inches, or two foot and half, was but half the breadth given, therefore 17 foot and a half,

half, is but half the number of feet in the Pavement; therefore double 17 foot and a half, and it makes 35 foot, and so many foot of Paving is there in the *Banketing house*.

Or, if you would not go by taking of the half, (which, if it may be had, is the easiest way) you may divide the breadth into any two parts, as into 3 foot, and 2 foot; then look what it would contain if it were 3 foot, or 36 inches broad and 7 foot long, and you shall find it would contain 21 foot. Also look what it would contain if it had been 2 foot, or 24 inches broad, and 7 foot long, and you shall find it would contain 14 foot; these two numbers, 21 foot, and 14 foot, added together, will make 35 foot, for the content, or number of feet, as before.

Example 6. There is a Banketing house, the breadth is 7 foot, and the length is 35 foot, how many foot of Paving will it contain?

Because 7 foot the breadth, exceeds the number in the Table take the 7 foot, which is 7 foot and a half, or 36 inches, then find 36 inches in the first column of the Table, and it will be found, under 7 foot, that it will contain 21 foot, and under 2 foot, that it will contain 14 foot, and these two numbers added together, will make 35 foot, for the content, or number of feet, as before.

**TABLE:** *showing how much in Length of any squared Stone or Timber, doth make a foot Solid, the side of the Square at the end of the Piece being known.*

F. In. F.	In.	Pts.
0	4	0
1	2	1
2	2	3
3	2	6
4	2	9
5	2	12
6	2	15
7	2	18
8	2	21
9	2	24
10	2	27
11	2	30
12	2	33
13	2	36
14	2	39
15	2	42
16	2	45
17	2	48
18	2	51
19	2	54
20	2	57
21	2	60
22	2	63
23	2	66
24	2	69
25	2	72
26	2	75
27	2	78
28	2	81
29	2	84
30	2	87
31	2	90
32	2	93
33	2	96
34	2	99
35	2	102
36	2	105
37	2	108
38	2	111
39	2	114
40	2	117
41	2	120
42	2	123
43	2	126
44	2	129
45	2	132
46	2	135
47	2	138
48	2	141
49	2	144
50	2	147
51	2	150
52	2	153
53	2	156
54	2	159
55	2	162
56	2	165
57	2	168
58	2	171
59	2	174
60	2	177
61	2	180
62	2	183
63	2	186
64	2	189
65	2	192
66	2	195
67	2	198
68	2	201
69	2	204
70	2	207
71	2	210
72	2	213
73	2	216
74	2	219
75	2	222
76	2	225
77	2	228
78	2	231
79	2	234
80	2	237
81	2	240
82	2	243
83	2	246
84	2	249
85	2	252
86	2	255
87	2	258
88	2	261
89	2	264
90	2	267
91	2	270
92	2	273
93	2	276
94	2	279
95	2	282
96	2	285
97	2	288
98	2	291
99	2	294
100	2	297
101	2	300
102	2	303
103	2	306
104	2	309
105	2	312
106	2	315
107	2	318
108	2	321
109	2	324
110	2	327
111	2	330
112	2	333
113	2	336
114	2	339
115	2	342
116	2	345
117	2	348
118	2	351
119	2	354
120	2	357
121	2	360
122	2	363
123	2	366
124	2	369
125	2	372
126	2	375
127	2	378
128	2	381
129	2	384
130	2	387
131	2	390
132	2	393
133	2	396
134	2	399
135	2	402
136	2	405
137	2	408
138	2	411
139	2	414
140	2	417
141	2	420
142	2	423
143	2	426
144	2	429
145	2	432
146	2	435
147	2	438
148	2	441
149	2	444
150	2	447
151	2	450
152	2	453
153	2	456
154	2	459
155	2	462
156	2	465
157	2	468
158	2	471
159	2	474
160	2	477
161	2	480
162	2	483
163	2	486
164	2	489
165	2	492
166	2	495
167	2	498
168	2	501
169	2	504
170	2	507
171	2	510
172	2	513
173	2	516
174	2	519
175	2	522
176	2	525
177	2	528
178	2	531
179	2	534
180	2	537
181	2	540
182	2	543
183	2	546
184	2	549
185	2	552
186	2	555
187	2	558
188	2	561
189	2	564
190	2	567
191	2	570
192	2	573
193	2	576
194	2	579
195	2	582
196	2	585
197	2	588
198	2	591
199	2	594
200	2	597
201	2	600
202	2	603
203	2	606
204	2	609
205	2	612
206	2	615
207	2	618
208	2	621
209	2	624
210	2	627
211	2	630
212	2	633
213	2	636
214	2	639
215	2	642
216	2	645
217	2	648
218	2	651
219	2	654
220	2	657
221	2	660
222	2	663
223	2	666
224	2	669
225	2	672
226	2	675
227	2	678
228	2	681
229	2	684
230	2	687
231	2	690
232	2	693
233	2	696
234	2	699
235	2	702
236	2	705
237	2	708
238	2	711
239	2	714
240	2	717
241	2	720
242	2	723
243	2	726
244	2	729
245	2	732
246	2	735
247	2	738
248	2	741
249	2	744
250	2	747
251	2	750
252	2	753
253	2	756
254	2	759
255	2	762
256	2	765
257	2	768
258	2	771
259	2	774
260	2	777
261	2	780
262	2	783
263	2	786
264	2	789
265	2	792
266	2	795
267	2	798
268	2	801
269	2	804
270	2	807
271	2	810
272	2	813
273	2	816
274	2	819
275	2	822
276	2	825
277	2	828
278	2	831
279	2	834
280	2	837
281	2	840
282	2	843
283	2	846
284	2	849
285	2	852
286	2	855
287	2	858
288	2	861
289	2	864
290	2	867
291	2	870
292	2	873
293	2	876
294	2	879
295	2	882
296	2	885
297	2	888
298	2	891
299	2	894
300	2	897
301	2	900
302	2	903
303	2	906
304	2	909
305	2	912
306	2	915
307	2	918
308	2	921
309	2	924
310	2	927
311	2	930
312	2	933
313	2	936
314	2	939
315	2	942
316	2	945
317	2	948
318	2	951
319	2	954
320	2	957
321	2	960
322	2	963
323	2	966
324	2	969
325	2	972
326	2	975
327	2	978
328	2	981
329	2	984
330	2	987
331	2	990
332	2	993
333	2	996
334	2	999
335	2	1002
336	2	1005
337	2	1008
338	2	1011
339	2	1014
340	2	1017
341	2	1020
342	2	1023
343	2	1026
344	2	1029
345	2	1032
346	2	1035
347	2	1038
348	2	1041
349	2	1044
350	2	1047
351	2	1050
352	2	1053
353	2	1056
354	2	1059
355	2	1062
356	2	1065
357	2	1068
358	2	1071
359	2	1074
360	2	1077
361	2	1080
362	2	1083
363	2	1086
364	2	1089
365	2	1092
366	2	1095
367	2	1098
368	2	1101
369	2	1104
370	2	1107
371	2	1110
372	2	1113
373	2	1116
374	2	1119
375	2	1122
376	2	1125
377	2	1128
378	2	1131
379	2	1134
380	2	1137
381	2	1140
382	2	1143
383	2	1146
384	2	1149
385	2	1152
386	2	1155
387	2	1158
388	2	1161
389	2	1164
390	2	1167
391	2	1170
392	2	1173
393	2	1176
394	2	1179
395	2	1182
396	2	1185
397	2	1188
398	2	1191
399	2	1194
400	2	1197
401	2	1200
402	2	1203
403	2	1206
404	2	1209
405	2	1212
406	2	1215
407	2	1218
408	2	1221
409	2	1224
410	2	1227
411	2	1230
412	2	1233
413	2	1236
414	2	1239
415	2	1242
416	2	1245
417	2	1248
418	2	1251
419	2	1254
420	2	1257
421	2	1260
422	2	1263
423	2	1266
424	2	1269
425	2	1272
426	2	1275
427	2	1278
428	2	1281
429	2	1284
430	2	1287
431	2	1290
432	2	1293
433	2	1296
434	2	1299
435	2	1302
436	2	1305
437	2	1308
438	2	1311
439	2	1314
440	2	1317
441	2	1320
442	2	1323
443	2	1326
444	2	1329
445	2	1332
446	2	1335
447	2	1338
448	2	1341
449	2	1344
450	2	1347
451	2	1350
452	2	1353
453	2	

# The Use of the Table by Examples.

**Example 1.** If the side of the Square of any Stone or Piece of Timber be 8 inches, how much of that Timber or Stone in length, will make a foot Solid.

Look in the first Column of the Table for 8 inches, against which, in the second Column, you shall find 2, 3, 0, which is 2 foot and 3 inches, and so much in length must there be to make one Solid foot; and so many times as a foot 3 inches, is contained in the length of the Tree, so many foot is there in the Tree; and there be any odd measure at the end of the Piece, the length of the foot being 27 inches; 13 inches and an half, is half a foot; 6 inches and 3 quarters, is a quarter of a foot; and nearer you need not go in such gross works.

**Example 2.** If the side of the Square, at the end of any squared Timber-tree, be II. foot and 2 inches, how much of that Timber or Stone in length, will make a foot Solid?

Find II. foot 2 inches in the first Column of the Table, and right against it, in the second Column, you shall find 0, 2, 6, which is, no feet, 2 inches, and 6 tenth parts of an inch (which is somewhat above half an inch) so that 2 inches, and a small quantity above half an inch in length, will make a foot of that squared Stone or Timber.

# TABLE

OF

Cubical (or Solid) Measure;

AS

TIMBER, STONE, &c.

Ready Cast up.

From half an Inch to 36 Inches Square  
at the end;

AND

From one Foot to 10 Foot in Length.

AND

Consequently (by help of Addition only)  
to any greater Length.



# The Length of the Timber,

Inch.	1		2		3		4		5	
	F.	pt.	F.	pt.	F.	pt.	F.	pt.	F.	pt.
-	0	00	0	00	0	00	0	01	0	01
1	0	01	0	01	0	02	0	03	0	03
-	0	02	0	03	0	05	0	06	0	08
2	0	03	0	05	0	08	0	11	0	14
-	0	04	0	08	0	13	0	17	0	21
3	0	06	0	12	0	18	0	25	0	31
-	0	08	0	17	0	25	0	34	0	42
4	0	11	0	22	0	33	0	44	0	55
-	0	12	0	23	0	35	0	46	0	57
5	0	17	0	25	0	38	0	50	0	61
-	0	21	0	42	0	63	0	84	1	05
6	0	25	0	50	0	75	1	00	1	25
-	0	29	0	58	0	88	1	17	1	46
7	0	34	0	68	1	02	1	26	1	70
-	0	39	0	78	1	17	1	36	1	95
8	0	44	0	89	1	33	1	77	2	22
-	0	50	0	90	1	40	2	102	2	51
9	0	56	1	12	1	68	2	25	2	81
-	0	63	1	25	1	88	2	51	3	13
10	0	69	1	30	2	08	2	57	3	47
-	0	76	1	53	2	29	3	06	3	82
11	0	84	1	68	2	52	3	36	4	20
-	0	92	1	84	2	76	3	67	4	59
12	1	00	2	10	3	00	4	00	5	00
-	1	08	2	17	3	25	4	34	5	42
13	1	17	2	35	3	54	4	69	5	80
-	1	26	2	53	3	80	5	06	6	33
14	1	36	2	72	4	08	5	44	6	80
-	1	46	2	92	4	38	5	84	7	30
15	1	56	3	124	4	68	6	25	7	81
-	1	67	3	33	5	04	6	67	8	00
16	1	78	3	55	5	33	7	118	8	89
-	1	89	3	78	5	67	7	56	9	45
17	2	01	4	01	6	02	8	03	10	03
-	2	13	4	29	6	28	8	21	11	00
18	2	25	4	50	6	50	8	40	11	00

Square of the Timber or Stone in Inches and half Inches.

Square of the Timber or Stone in Inches and half Inches.

# or Stone in Feer.

Inch.	6		7		8		9		10	
	Pt.	F.	Pt.	F.	Pt.	F.	Pt.	F.	Pt.	F.
1	0	00	0	00	0	00	0	00	0	00
2	0	04	0	05	0	05	0	06	0	07
3	0	09	0	11	0	13	0	11	0	16
4	0	17	0	19	0	22	0	25	0	28
5	0	26	0	30	0	34	0	39	0	43
6	0	37	0	43	0	49	0	56	0	62
7	0	51	0	59	0	68	0	76	0	85
8	0	66	0	78	0	89	0	99	0	11
9	0	84	0	98	1	12	1	26	1	40
10	1	04	1	22	1	39	1	56	1	74
11	1	26	1	47	1	68	1	89	2	10
12	1	50	1	55	2	00	2	25	2	50
13	1	76	2	05	2	34	2	64	2	93
14	2	04	2	38	2	72	3	06	3	40
15	2	34	2	73	3	12	3	51	3	90
16	2	66	3	11	3	55	3	99	4	44
17	3	01	3	51	4	01	4	52	5	02
18	3	37	3	93	4	49	5	06	5	62
19	3	76	4	29	5	01	5	64	6	27
20	4	16	4	86	5	55	6	24	6	94
21	4	59	5	35	6	12	6	88	7	68
22	5	04	5	88	6	72	7	56	8	40
23	5	51	6	43	7	35	8	27	9	19
24	6	00	7	00	8	00	9	00	10	00
25	6	51	7	51	8	68	9	76	10	85
26	7	04	8	22	9	39	10	56	11	74
27	7	59	8	86	10	13	11	39	12	66
28	8	16	9	53	10	89	12	25	13	61
29	8	76	10	22	11	68	13	14	14	60
30	9	37	10	93	12	49	14	06	15	62
31	10	01	11	62	13	34	15	01	16	68
32	10	67	12	44	14	22	16	00	17	78
33	11	34	13	24	15	13	17	02	18	91
34	12	04	14	05	16	05	18	06	20	07
35	12	76	14	89	17	01	19	14	21	27
36	13	50	15	75	19	00	20	25	22	50

Square of the Timber or Stone in Inches and half Inches.

# The length of the Timber,

Inch.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36		
	F.	pt. F.	pt. F.	F.	pt. F.	pt. F.	F.	pt. F.	pt. F.	F.	pt. F.	pt. F.	F.	pt. F.	pt. F.	F.	pt. F.	pt. F.	F.	pt. F.	pt. F.	F.	pt. F.	pt. F.	F.	pt. F.	pt. F.	F.	pt. F.	pt. F.	F.	pt. F.	pt. F.	F.	pt. F.	pt. F.	F.	
19	2	38	4	75	7	13	9	51	11	88																												
20	2	51	5	00	7	52	10	03	12	53																												
21	2	64	5	08	7	82	10	56	13	20																												
22	2	78	5	55	8	39	11	11	13	89																												
23	2	92	5	83	8	75	11	67	14	59																												
24	3	06	6	12	9	18	12	25	15	31																												
25	3	21	6	42	9	63	12	84	16	09																												
26	3	36	6	72	10	08	13	44	16	80																												
27	3	51	7	03	10	55	14	06	17	58																												
28	3	67	7	34	11	03	14	69	18	36																												
29	3	83	7	69	11	50	15	34	19	17																												
30	4	00	8	00	12	00	16	00	20	00																												
31	4	16	8	33	12	50	16	66	20	85																												
32	4	34	8	68	13	02	17	36	21	70																												
33	4	51	9	02	13	54	18	09	22	56																												
34	4	69	9	39	14	08	18	77	23	47																												
35	4	88	9	78	14	63	19	51	24	38																												
36	5	06	10	12	15	19	20	25	25	31																												
37	5	25	10	80	15	75	21	00	26	29																												
38	5	44	10	89	16	33	21	78	27	21																												
39	5	67	11	34	17	01	22	68	28	31																												
40	5	84	11	68	17	12	23	36	29	26																												
41	6	04	12	08	18	13	24	17	30	21																												
42	6	25	12	50	18	75	25	00	31	25																												
43	6	46	12	92	19	88	25	84	32	30																												
44	6	67	13	34	20	02	26	69	33	36																												
45	6	89	13	78	20	67	27	86	34	45																												
46	7	11	14	22	21	33	28	44	35	55																												
47	7	33	14	66	21	99	29	33	36	66																												
48	7	56	15	12	22	68	30	24	37	81																												
49	7	78	15	56	23	34	31	12	38	90																												
50	8	03	16	05	24	08	32	11	40	14																												
51	8	26	16	52	24	79	33	05	41	31																												
52	8	50	17	01	25	52	34	03	42	33																												
53	8	70	17	50	26	25	35	00	43	75																												
54	9	00	18	00	27	00	36	00	46	00																												

Square of the Timber or Stone in Inches and half Inches.

Square of the Timber or Stone in Inches and half Inches.

# or Stone in Feet.

Inch	6		7		8		9		10	
	Ft.	pt.	Ft.	pt.	Ft.	pt.	Ft.	pt.	Ft.	pt.
19	14	26	16	64	19	01	21	39	23	77
-	15	04	17	55	20	09	22	56	25	07
-	15	64	18	49	21	13	23	77	26	41
20	16	67	19	40	22	22	25	00	27	78
-	17	51	20	42	23	34	26	26	29	18
21	18	37	21	43	24	49	27	56	30	62
-	19	26	22	47	25	68	28	89	32	10
22	20	16	23	53	26	89	30	25	33	61
-	21	09	24	61	28	13	31	64	35	16
23	22	04	25	71	29	38	33	06	36	73
-	23	01	26	84	30	68	34	51	38	35
24	24	00	28	00	32	00	36	00	40	00
-	24	99	29	16	33	33	37	49	41	66
25	26	04	30	38	34	76	39	02	43	40
-	27	68	31	59	36	10	40	62	45	13
26	28	16	32	86	37	55	42	24	46	94
-	29	26	34	14	39	01	43	89	48	77
27	30	38	35	44	40	50	45	57	50	63
-	31	50	36	75	42	00	47	25	52	50
28	32	67	38	11	43	56	49	00	54	45
-	34	02	39	69	45	36	51	03	56	70
29	35	04	40	88	46	72	52	56	58	40
-	36	26	42	30	48	34	54	39	60	43
30	37	50	43	75	50	00	56	25	62	50
-	38	76	45	22	51	68	58	14	64	60
31	40	04	46	71	53	38	60	06	66	73
-	41	34	48	23	55	12	62	01	68	90
32	42	66	49	78	56	89	63	99	71	11
-	43	99	51	33	58	66	65	99	73	33
33	45	37	52	93	60	49	68	06	75	62
-	46	68	54	46	62	24	70	02	78	80
34	48	17	56	19	64	22	72	25	80	28
-	49	58	57	84	66	10	74	37	82	63
35	51	04	59	55	68	05	76	56	85	07
-	52	50	61	25	70	00	78	75	87	50
36	54	00	63	00	72	00	81	00	90	00

Square of the Timber or Stone in Inches and half Inches.

*An Explanation of this Table.*

**T**His Table consisteth of 11 Columns; In the first whereof, that towards the left hand having the word Inches at the top or head thereof, beginning with a [.] representing half an Inch, then the figure 1, representing one Inch, then [.] representing 1 Inch and a half, and so downwards, by half Inches, to 18 Inches, shewing the side of the Square of any squared Timber or Stone. And in the other 10 Columns, having the figures, 1. 2. 3. 4. 5. 6. 7. 8. 9. 10 at the tops or heads of them, they represent the length of any Timber Tree in Feet, so that if you find the length of the side of the Square in Inches, and half Inches, in the first Column, and the length of the Tree in Feet, at the head of the Table, in the Square or meeting of these two numbers, you have the content or quantity of Feet contained in that Stone or Timber. The Table begins at half an Inch, and so continues by half Inches, to 36 Inches the side of the Square; and from one Foot, to 10 Foot in length.

*The Use of this Table by Examples.*

*Example 1. If the side of the Square at the end of any Timber or Stone be 15 Inches, and the length thereof 5 Foot, how many Foot is there in that Stone or Timber Log?*

*Find 15 Inches in the first Column of the Table*

ble, and right against it, under 5 Foot the length, you shall find 7.81. which is 7 Foot, and 81 hundred parts of a Foot, that is, something above three quarters of a foot; for 25 parts, is a quarter of a Foot; 50 parts, half a Foot; and 75 parts, three quarters of a Foot. So that in this Stone or Timber, there is 7 foot, and above three quarters.

**Example 2.** *If the Square of a Timber Tree be 17 Inches and an half, and the length thereof be 9 Foot; how many Feet are contained in that Tree?*

Look for 17 Inches and an half in the first Column, against which, (in the Column of 9 Foot) you have 19.14. that is, 19 Foot, and 14 hundred parts of a Foot; which is about half a quarter of a Foot.

**Example 3.** *If a Piece of Timber or Stone be 30 Inches square, and 10 Foot long, how many Feet is there in that Piece?*

Find 30 Inches the breadth, in the first Column; and against it, under 10 Foot the length, you shall find 62 Foot; and so many Feet doth that Piece contain.

**Example 4.** *If the square of a Timber Tree be 27 Inches, and the length thereof 18 Foot; how many solid Feet is there in that Tree?*

Because the Table goeth but to 18 Foot in length,



*An Explanation of this Table.*

**T**His Table consisteth of 11 Columns; In the first whereof, that towards the left hand having the word Inches at the top or head thereof, beginning with a [.] representing half an inch, then the figure 1, representing one Inch, then [.] representing 1 Inch and a half, and so downwards, by half Inches, to 18 Inches, shewing the side of the Square of any squared Timber or Stone. And in the other 10 Columns, having the figures, 1. 2. 3. 4. 5. 6. 7. 8. 9. 10 at the tops or heads of them, they represent the length of any Timber Tree in Feet, so that if you find the length of the side of the Square in Inches, and half Inches, in the first Column, and the length of the Tree in Feet, at the head of the Table, in the Square or meeting of these two numbers, you have the content or quantity of Feet contained in that Stone or Timber. The Table begins at half an Inch, and so continues by half Inches, to 36 Inches the side of the Square; and from one Foot, to 10 Foot in length.

*The Use of this Table by Examples.*

**Example 1.** *If the side of the Square at the end of any Timber or Stone be 15 Inches, and the length thereof 5 Foot, how many Foot is there in that Stone or Timber Log?*

**Find 15 Inches in the first Column of the Table**

ble, and right against it, under 5 Foot the length, you shall find 7.81. which is 7 Foot; and 81 hundred parts of a Foot, that is, something above three quarters of a foot; for 25 parts, is a quarter of a Foot; 50 parts, half a Foot; and 75 parts, three quarters of a Foot. So that in this Stone or Timber, there is 7 foot, and above three quarters.

**Example 2.** *If the Square of a Timber Tree be 17 Inches and an half, and the length thereof be 9 Foot, how many Feet are contained in that Tree?*

Look for 17 Inches and an half in the first Column, against which, (in the Column of 9 Foot) you have 19.14. that is, 19 Foot, and 14 hundred parts of a Foot, which is about half a quarter of a Foot.

**Example 3.** *If a Piece of Timber or Stone be 30 Inches square, and 10 Foot long, how many Feet is there in that Piece?*

Find 30 Inches the breadth, in the first Column; and against it, under 10 Foot the length, you shall find 62 Foot; and so many Feet doth that Piece contain.

**Example 4.** *If the square of a Timber Tree be 27 Inches, and the length thereof 18 Foot, how many solid Feet is there in that Tree?*

Because the Table goeth but to 18 Foot in length,

length, and this Tree is 18 Foot long, therefore (as you did before in Board measure) take half the length thereof, which is 9 Foot; then finding 27 Inches, the square, in the first Column, and right against it, under 9 Foot, you shall find 45 Foot, 57 parts, and so many Feet would the Tree have contained, if it had been but 9 Foot long; but being 18 Foot long, it must contain as much more, that is, 91 Foot, and 14 parts, which is half a quarter of a foot.

And thus if the Tree be very long, as 30, 40, or 50 Foot, you may take so many times 10 Foot, as there are tens in its length, and the odd feet by themselves, and add all together. So a Timber Tree being 31 Inches square, and 47 Foot long, will be found by this Table to contain 303 Foot, 62 parts, that is, half a quarter above half a Foot,

At 31 Inches Square, and	{	10 Foot long	}	the Piece would contain—	{	64 60
		10 more				64 60
		10 more				64 60
		10 more				64 60
		7 more				45 22
		<hr/>				<hr/>
		47				303 62

Cauti<sup>o</sup>n. I.

**I**N the Examples beforegoing, we have supposed the Tree or Stone we measured, to carry the same square from end to end throughout the Piece; but we see, that in all, or most Trees, (especially

(especially if they be very long) there is a great deal of difference between the squares of either end of the Tree: Wherefore, Workmen, and other Measurers, do (for the most part) make choice of some convenient place in the middle of the Tree, and take the square there for the true square; but this is not true (except by chance); therefore in such Timber Trees, Measure the squares at both the ends, and add the sides of those two squares together, and half that length shall be the true square, which the Tree will carry throughout. Thus, if a Timber Tree have the side of the square at the great end 32 Inches, and at the lesser end 22 Inches, these two added together, will make 54 Inches, the half whereof is 27 Inches and a half; and that is the true side of the square. With which, and the length (by the Table) you may find the content as is before taught.

### *Caution II.*

**H**itherto we have dealt with such Timber or Stone, as have all the 4 sides at the end thereof equal; but it is often seen, that the sides of the square, at the ends of squared Timber and Stone, are unequal; as sometimes 3, 4, 5, 6, 10, or 15 Inches difference; wherefore some Artificers and other Measurers, do add the two sides together, and take the half of that for the side of the true square; but this is egregiously false; and although the error be not much, when the difference of the sides is little; yet if the difference of the sides be great, the

(200) error is intollerable; as I will make appear by Example.

Let one side be 30 Inches, and the other 183 Inches, these two added together, make 213, the half whereof is 106 and a half, which they take for the side of a true square; whereas the true square is 74 Inches, and 1 tenth of an inch, the error here being 32 Inches, and 4 tenths.

To remedy which, and to prescribe a ready way for the finding of the true side of a square, equal to any unequal sided Timber or Stone, I have here inserted a Table whereby you may effect your desire with ease and exactness.

Two added together, will make 213 Inches, the half whereof is 106 and a half, and that is the true side of the square. With which length (by the Table) you may find the con-

**H**ereafter we have dealt with such Timber or Stone, as have all the 4 sides of the end in one of them; but it is observed, that the sides of the square, at the ends of unequal Timber and Stone, are unequal, as sometimes 2, 3, 4, 5, 6, 7, 8, 9, 10, or 12 Inches difference; wherefore some Artificers and other Measurers do add the

the side of the true square, and find the error, which the difference is, and then add it to the side of the true square, and find the true side of the square.

1  
2  
3  
4  
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12  
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25

## A T A B L E

By which you may find the true Square of any  
unequal sided Stone or Timber

In.	In.	In.	In.
1 000000	26 141497	51 170757	76 188081
2 030103	27 143136	52 171600	77 188649
3 047712	28 144715	53 172427	78 189209
4 062206	29 146239	54 173239	79 189762
5 069897	30 147712	55 174036	80 190309
6 077815	31 149136	56 174818	81 190848
7 084509	32 150525	57 175587	82 191381
8 090308	33 151851	58 176342	83 191907
9 095424	34 153147	59 177085	84 192428
10 100000	35 154406	60 177815	85 192941
11 104139	36 155630	61 178532	86 193449
12 107918	37 156820	62 179239	87 193952
13 111394	38 157978	63 179934	88 194448
14 114612	39 159106	64 180618	89 194939
15 117609	40 160205	65 181291	90 195424
16 120411	41 161278	66 181954	91 195904
17 123044	42 162325	67 182607	92 196378
18 125527	43 163346	68 183250	93 196848
19 127875	44 164345	69 183885	94 197312
20 130102	45 165321	70 184509	95 197772
21 132221	46 166275	71 185125	96 198217
22 134242	47 167209	72 185735	97 198677
23 136172	48 168124	73 186332	98 199122
24 138021	49 169019	74 186923	99 199565
25 139794	50 169897	75 187506	100 200000



# An Explanation of the Table.

**T**HE Table beginneth at 1 Inch Square, and so on by 2, 3, 4, 5, &c. to 100 Inches Square, against each of which numbers of Inches, are set other numbers appropriate to the business in hand.

## The Use of the Table by Examples.

**Example 1:** If one side of a Square Stone, or Piece of Timber, be 16 Inches, and the other 25 Inches, what is the side of a Square equal thereto?

First find 16 Inches in the Table, against which you shall find this number, 126411. Also find 25 Inches in the Table, and against it you shall find this number 139794. These two numbers added together, produce this number 266205, the Sum. Half whereof is 133102. Now look in the Table for this number, (or the nearest you can find to it) and you shall find it to stand against 20 inches. So 20 inches is the true Square of such an unequal sided Piece of Stone or Timber.

**Example 2:** Let the unequal sides be 88 Inches, and 15 Inches.

Look for 88 Inches in the Table, the number answering

answering thereto is 194448. Also find 45 In-ches, and the number standing against that is 165321, these two added together make 359769, the half whereof is 179884, which seek in the Table (or the nearest to it) and the nearest number to it is 179934, against which stands 63 Inches, which is the near side of a Square equal to that unequal sided Piece of Timber or Stone.

88 Inches ——— 194448

45 Inches ——— 165321

Their Sum ——— 359769

The half Sum — 179884

Having thus found the side of a Square equal to any unequal sided Timber or Stone, you may (by the former Tables) find either how much in length will make a Foot, or how many Foot is contained in any such Stone or Timber tree, according to the former directions.

### Of Round Timbers.

**C**ONCERNING the Mensuration of *Squared Timber* or *Stone*, whether of equal or unequal sides, I have already largely insisted upon; I will now shew how *Round Timber* is to be measured.

Artificers, and all Buyers of *Rough Timber*, do generally Girt the Tree about with a String, at about 4 or 5 Foot from the greater end thereof; of which String, they take one quarter of the

the length thereof, for the true Square of the Tree, which is most intollerable false; for by their so doing, they make every Tree they so measure, above a fifth part less than in reality it is. But Custom herein hath so gotten the upper hand of truth, that you shall not meet with one man of a hundred, that will buy *Rough Timber* by any other measure; and for their so doing, they use this Argument. *When the Bark is taken off, and the Tree hewed to a Square, it will then hold out no more measure, than which is cut off being fit for nothing but the fire, and the charge of Squaring, is of more worth by far than the Chips.*

It being so, that they will buy by no other kind of Measure, you may then measure Round Timber by either of the foregoing Tables of Timber Measure.

*Example 1. If a Tree be 68 Inches about, how much thereof in length will make a foot Square?*

A fourth part of 60 Inches, is 15 Inches; and this they take for the true Square, wherefore; look for 15 Inches, or 1 Foot 3 Inches, in the first Column of the first Table of Timber Measure, and right against it in the second Column; you shall find that 7 Inches, and 8 tenth parts of an Inch, which is somewhat above half an Inch, will make a Foot Square. Again,

*Example 2. If a Tree be 136 Inches about, and 9 Foot long, how many Solid Foot is there in that Tree?*

The

The fourth part of 136, is 34 Inches; wherefore find 34 Inches in the first Column of the Second Table of Timber Measure, and 9 Foot in the head thereof, and right against 34 Inches, and under 9 Foot, you shall find 72.25. that is, 72 Foot and a quarter; and for so much will they buy it, and for no more, which is less than the true Content of the Tree, by above a fifth part.

But although they have this pretence for *Round Timber Rough*; they cannot have the same for *Stone* or *Round Columns of Wood* or *Stone*, wherein there is no such waste as they there speak of; I have therefore here added a Table, which shews *How much in length, of any Round Timber or Stone, whose Girt or Circumference is known, will make a Foot Solid.* By which Table you shall see the Error of the former customary Rule clearly detected.

## A T A B L E,

Shewing how much in Length of any Round Timber Tree, whose Circumference (or Girt) is known, doth make a foot Solid.

Circ. E. in. pt.				Circ. F. In. pt.				Circ. F. In. pt.				
The Circumference of the Tree in Inches.	10	18	11	2	40	1	1	6	70	0	4	4
	11	14	11	5	41	1	0	9	71	0	4	3
	12	12	6	8	42	1	0	3	72	0	4	2
	13	10	8	5	43	0	11	7	73	0	4	1
	14	9	2	7	44	0	11	1	74	0	3	9
	15	7	10	2	45	0	10	7	75	0	3	8
	16	7	0	8	46	0	10	2	76	0	3	7
	17	6	3	0	47	0	9	9	77	0	3	7
	18	5	7	0	48	0	9	4	78	0	3	6
	19	5	0	2	49	0	9	0	79	0	3	5
	20	4	6	3	50	0	8	7	80	0	3	4
	21	4	1	2	51	0	8	3	81	0	3	3
	22	3	8	9	52	0	8	0	82	0	3	2
	23	3	4	9	53	0	7	8	83	0	3	2
	24	3	1	7	54	0	7	4	84	0	3	1
	25	2	10	7	55	0	7	2	85	0	3	0
	26	2	8	1	56	0	6	9	86	0	2	9
	27	2	5	8	57	0	6	7	87	0	2	5
	28	2	3	7	58	0	6	4	88	0	2	8
	29	2	1	8	59	0	6	2	89	0	2	7
	30	2	0	1	60	0	6	0	90	0	2	7
31	1	10	6	61	0	5	8	91	0	2	6	
32	1	9	2	62	0	5	6	92	0	2	6	
33	1	7	9	63	0	5	5	93	0	2	5	
34	1	6	8	64	0	5	2	94	0	2	5	
35	1	5	7	65	0	5	1	95	0	2	4	
36	1	4	7	66	0	4	9	96	0	2	4	
37	1	3	8	67	0	4	8	97	0	2	3	
38	1	3	0	68	0	4	7	98	0	2	3	
39	1	2	3	69	0	4	6	99	0	2	2	
								100	0	2	2	

*An Explanation of this Table.*

**T**HIS Table consisteth of two Columns, the first Column contains the number of Inches that any Timber Tree or Stone Column, is in the Girt about, or Circumference, beginning at 10 Inches, and so proceeding by 11, 12, 13, &c. to 100 Inches about. And in the second Column, against every one of these numbers of Inches in Circumference, you have the number of Feet, Inches, and parts of an Inch, that will make a Foot Solid.

*The Use of the Table by Example.*

*Example. If a Tree be 60 Inches about, how much thereof in length, will make a Foot Solid?*

Find 60 Inches in the first Column of the Table, and against it, in the second Column, you shall find 0. 6. 0. that is, no Feet, 6 Inches, and no parts, so that just 6 Inches in length, will make a Foot Solid. Whereas, by the other way you found that there must be 7 Inches, and above half an Inch, to make a Foot Solid, which is above an Inch and a half too much in each Foots length; an Error intollerable.





A

# TABLE

Shewing what Number of

## S Q U A R E S

### O F

*Tyling, Flooring,* or of any other Work measured by the Square of 10 Foot, is contained in any such Piece of Work; The length and breadth thereof being given in Feet;

Ready cast up.

From 10 Foot to 40 Foot long,

A N D

From 10 to 20 Foot broad.

And consequently (by Addition only) to any Greater Length or Breadth.

The breadth of the Flooring or  
Tiling, &c. in Feet

Feet	10		11		12		13		14	
	Sq.	F. Sq.	Sq.	F. Sq.	Sq.	F. Sq.	Sq.	F. Sq.	Sq.	F. Sq.
10	1	00	1	10	1	20	1	30	1	40
11	1	10	1	21	1	32	1	43	1	54
12	1	20	1	32	1	44	1	56	1	68
13	1	30	1	43	1	56	1	69	1	82
14	1	40	1	54	1	68	1	82	1	96
15	1	50	1	65	1	80	1	95	2	10
16	1	60	1	76	1	92	2	08	2	24
17	1	70	1	87	2	04	2	21	2	38
18	1	80	1	98	2	16	2	34	2	52
19	1	90	2	09	2	28	2	47	2	66
20	2	00	2	20	2	40	2	60	3	00
21	2	10	2	31	2	52	2	73	3	14
22	2	20	2	42	2	64	2	88	3	28
23	2	30	2	53	2	76	3	99	3	42
24	2	40	2	64	2	88	3	12	3	56
25	2	50	2	75	3	01	3	25	3	50
26	2	60	2	86	3	12	3	38	3	64
27	2	70	2	97	3	24	3	51	3	78
28	2	80	3	08	3	36	3	64	3	92
29	2	90	3	19	3	48	3	77	4	06
30	3	00	3	30	3	60	3	90	4	20
31	3	10	3	41	3	72	4	03	4	34
32	3	20	3	52	3	84	4	16	4	48
33	3	30	3	63	3	96	4	29	4	62
34	3	40	3	74	4	08	4	42	4	76
35	3	50	3	85	4	20	4	55	4	90
36	3	60	3	96	4	32	4	68	5	04
37	3	70	4	07	4	44	4	81	5	18
38	3	80	4	18	4	56	4	94	5	32
39	3	90	4	29	4	68	5	07	5	46
40	4	00	4	40	4	80	5	20	5	60

The length of the Flooring, Tiling, &c. in Feet.

The length of the Flooring, Tiling, &c. in Feet.

The breadth of the Flooring or  
Tying, &c. in Feet.

The length of the Flooring, Tying, &c. in Feet.	15		16		17		18		19		20	
	Sq.	F.	Sq.	F.	Sq.	F.	Sq.	F.	Sq.	F.	Sq.	F.
10	1	59	1	60	1	70	1	80	1	90	2	00
11	1	65	1	76	1	87	1	98	2	09	2	20
12	1	80	1	92	2	04	2	16	2	28	3	40
13	1	95	2	08	2	21	2	34	2	47	3	60
14	2	10	2	24	2	38	2	52	2	66	3	80
15	2	25	2	40	2	55	2	70	2	85	3	00
16	2	40	2	56	2	72	2	88	3	04	3	20
17	2	55	2	72	2	89	3	06	3	23	3	40
18	2	70	2	88	3	96	3	24	3	44	3	60
19	2	85	3	04	3	22	3	42	3	61	3	80
20	3	00	3	20	3	40	3	60	3	80	4	00
21	3	15	3	36	3	57	3	78	3	99	4	20
22	3	30	3	52	3	74	3	96	4	18	4	40
23	3	45	3	68	3	91	4	14	4	37	4	60
24	3	60	3	84	4	08	4	32	4	56	4	80
25	3	75	4	09	4	25	4	50	4	75	5	00
26	3	90	4	16	4	42	4	68	4	94	5	20
27	4	05	4	32	4	59	4	86	5	13	5	40
28	4	20	4	48	4	76	5	04	5	32	5	60
29	4	35	4	64	5	93	5	22	5	51	5	80
30	4	50	5	80	5	10	5	40	5	70	6	00
31	4	65	5	96	5	27	5	58	5	89	6	20
32	4	80	5	12	5	44	5	76	6	08	6	40
33	4	95	5	28	5	61	5	94	6	27	6	60
34	5	10	5	44	5	78	6	12	6	46	6	80
35	5	25	6	05	5	95	6	30	6	65	7	00
36	5	40	6	26	6	12	6	48	6	84	7	20
37	5	55	6	42	6	29	6	66	7	03	7	40
38	5	70	6	08	6	46	7	84	7	22	7	60
39	5	85	6	24	6	63	7	02	7	41	7	80
40	6	00	6	40	7	80	7	20	7	60	8	00

*Carpenters* do measure their Timber Frames of any Building ( when Erected ) which some call ( and not improperly ) the *Carcass of a Building*, by the Square of 10 Foot. And the Partitions and the Timber Flooring, they also reckon by this Measure, as also the Boarding of Floors. Bricklayers also do measure their Tiling of Houses, and Flooring of Rooms with Square Tiles by this Measure: A Square contains 100 Square Feet. And for the ready computing of the quantity of any such work, I have calculated the foregoing Table, by which, measuring the Length and Breadth of any such Work, by a two Foot Rule, you may immediately find the quantity of Squares therein contained.

*An Explanation of the Table.*

The Table consisteth of 11 Columns, the first whereof, towards the left hand, beginneth with 10 Foot, and so downwards, by 11, 12, 13, &c. to 40 Foot, which is to be accounted as the *Length* of any Tiling, Flooring, Partitioning, or Carcass of any Building. The other Ten Columns, having at the head of each of them, 10, 11, 12, &c. to 20, are the number of Feet that the *Carcass, Partitioning, Flooring, or Tiling*, is in *Breadth*. So that if you find the *Length* of any such Work in Feet in the first Column of the Table, and the *Breadth* thereof in Feet, at the head of the Table, in the common angle, or meeting of these two numbers, you have the number

number of Squares and Feet contained in any such piece of Work.

## The Use of this Table by Examples.

**Example 1.** A Carpenter hath Erected the Carcase of a House which is 33 Foot high; which House being Rowell, all the four sides thereof are unequal in breadth, viz. one side is 11 Foot, another 15 Foot, the third 13 Foot, and the fourth 14 Foot Broad, how many Square is there in this Carcase?

For the first side, which is 11 Foot broad, find 11 Foot at the top of the Table, and look down that Column till you come against 33 Foot (the height) in the first Column, and there you shall find 3 Square, 63 Foot.

Secondly, For the side 15 Foot broad, look 15 at the top, and against 33 in the side, you shall find 4 Square, 95 Foot.

Thirdly, For the side 13 Foot broad, look 13 at the top, and against 33 on the side of the Table, you shall find 4 Square 29 Foot. And

Fourthly, For the fourth side which is 14 Foot broad, find 14 at the top of the Table, and against 33 on the side, you shall find 4 Square, 62 Foot. These 4 numbers being added together, as in the Margine, do make in all 17 Square, and 59 Foot, which is a quarter of a Square, and 14 Foot over, that is something



bove half a quarter of a Square. So that there is contained in this Carcase, 17 Square, one quarter, and half a quarter, and one Foot and a half; but you need not come to these nice parts: It will be sufficient that you come to Squares, and Quarters, which in the Table are visible.

And in the same manner as you measured the several sides, in the same manner may you measure the Partitioning and Flooring.

**Example 2.** *If a Floor be 18 foot in breadth, and 27 foot in length, how many Square of flooring is there in that Room?*

Find 18, the breadth of the Floor, at the head of the Table, and under it, against 27 foot (the length) in the first Column, you shall find 4 Square, 86 foot; that is 4 Square, three quarters, and 11 foot. And so much is contained therein.

**Example 3.** *If a Room be 36 foot long, and 17 foot broad, how many Square of Flooring is there in that Room?*

Because you cannot find 36, the breadth at the top of the Table, (it going but to 20 foot broad) take the half thereof, that is 17 foot. Then find 17 foot (the half breadth) at the top of the Table, and under it, against 36 (the length) in the first Column, you shall find 6 Square, 12 foot. Now because 17 foot was but half the breadth therefore 6 Square 12 foot is but half the Content: wherefore double 6 Square

6 Square, 12 foot, and it makes 12 Square, 24 foot, that is 12 Square and a quarter, wanting only one foot, and so much Flooring is there in that Room which is 34 foot broad, and 36 foot long.

*Example 4: If a Hall be 76 foot long, and 38 foot broad, how many Squares of Flooring is there in such a Room?*

Here both the length and breadth are too large for the Table, therefore take the half of either of them, so half the length is 38 foot, and half the breadth is 19 foot. Then look 38 foot (the half length) in the first Column, and right against it, under 19 (the half breadth) you shall find 7 Square 22 foot.

Now, because you took but the half both of the length and of the breadth also, this 7 Square, 22 foot, is but one quarter of the Flooring, wherefore set it down 4 times (or multiply it by 4) and add them together, the Sum will be 28 Square, 88 foot. That is 28 Square, three quarters, and 13 foot, which is half a quarter.

And here note, that whatsoever is here said concerning *Flooring*, the like is to be done for *Tiling*, or any other Artificers Work that is measured by the Square of 10 foot.

square, 12 foot, and 12 square, 12  
 of that is 12 square and 12 square,  
 by one foot, and so much flooring  
 that room which is 24 foot broad,  
 or long.

Example 4. If a Hall be 20 foot long, and 12 foot  
 broad, how many square of flooring is there in  
 such a Room?

Here both the length and breadth are 20  
 feet for the Table, therefore take the half  
 of them; so half the length is 10 foot,  
 and half the breadth is 10 foot. Then look 10  
 in the left hand (the half length) in the first Column, and  
 10 against it, under 10 (the half breadth),  
 you shall find 7 square 20 foot.

Now, because you took but the half of both  
 the length and of the breadth, this  
 square, 20 foot, is but one quarter  
 of the flooring; therefore let it  
 be multiplied 4 times (or multiply it by 4),  
 and then together the sum will be  
 28 square, 88 foot. There is 28 square,  
 20 square, and 12 foot, which is 28  
 half square.

And here note, that whenever is here said  
 concerning flooring, the floor is to be  
 of any other Article, or of any  
 material by the square of 10 foot.



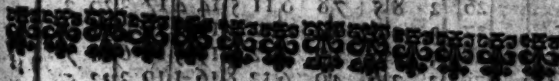
# TABLE

shewing how many

## SQUARE YARDS

Are contained in any Piece of  
Plasterers, & Joyners, Painters,  
or Paviers Work;

(Or in any other Artificers, who  
measure their work by the Yard  
Square;) The Length and Breadth  
thereof being given in Feet.



The length of any Path, Flag, or  
other Work in Feet.

F.	1		2		3		4		5		6		7	
	Y.	F.	Y.	F.	Y.	F.	Y.	F.	Y.	F.	Y.	F.	Y.	F.
1	0	1	0	2	0	3	0	4	0	5	0	6	0	7
2	0	2	0	4	0	6	0	8	1	1	1	3	1	5
3	0	3	0	6	0	8	1	3	1	6	2	0	2	3
4	0	4	0	8	1	3	1	7	2	2	2	6	3	1
5	0	5	1	1	1	6	2	2	2	7	3	3	3	8
6	0	6	1	2	2	0	2	6	3	3	4	0	4	6
7	0	7	1	3	2	3	3	1	3	4	5	6	5	4
8	0	8	1	4	2	6	3	4	4	5	6	7	6	2
9	1	0	2	5	3	0	4	5	5	6	7	8	7	6
10	1	1	2	6	3	1	5	6	6	7	8	9	8	7
11	1	2	2	7	4	1	6	7	7	8	9	0	9	8
12	1	3	2	8	4	2	7	8	8	9	0	1	0	9
13	1	4	2	9	4	3	8	9	9	0	1	2	1	0
14	1	5	3	0	5	4	9	0	0	1	2	3	2	1
15	1	6	3	1	5	5	0	1	1	2	3	4	3	2
16	1	7	3	2	6	6	1	2	2	3	4	5	4	3
17	1	8	3	3	6	7	2	3	3	4	5	6	5	4
18	2	0	4	0	6	8	3	4	4	5	6	7	6	5
19	2	1	4	1	7	9	4	5	5	6	7	8	7	6
20	2	2	4	2	8	0	5	6	6	7	8	9	8	7
21	2	3	4	3	9	1	6	7	7	8	9	0	9	8
22	2	4	4	4	0	2	7	8	8	9	0	1	0	9
23	2	5	4	5	1	3	8	9	9	0	1	2	1	0
24	2	6	5	6	2	4	9	0	0	1	2	3	2	1
25	2	7	5	7	3	5	0	1	1	2	3	4	3	2
26	2	8	5	8	4	6	1	2	2	3	4	5	4	3
27	2	9	5	9	5	7	2	3	3	4	5	6	5	4
28	3	0	6	0	6	8	3	4	4	5	6	7	6	5
29	3	1	6	1	7	9	4	5	5	6	7	8	7	6
30	3	2	6	2	8	0	5	6	6	7	8	9	8	7

The length of any Naistering or  
other Work in Feet

The breadth of any Naistering or other Work in Feet

	8	9	10	11	12	13	14	15
F	Y. R.	Y. R.	Y. R.	Y. R.	Y. R.	Y. R.	Y. R.	Y. R.
1	0	81	501	118	21	31	41	51
2	1	72	102	22	42	62	83	13
3	2	63	03	33	64	04	34	65
4	3	54	04	44	85	35	76	26
5	4	145	105	56	16	07	27	78
6	5	36	06	67	38	08	69	310
7	6	27	07	78	59	310	110	811
8	7	18	08	89	710	611	512	413
9	8	09	09	00	811	012	013	014
10	8	810	011	11	22	313	414	515
11	9	711	012	2	33	414	615	817
12	10	612	013	3	44	615	018	318
13	11	513	014	4	55	817	319	720
14	12	414	015	5	66	118	620	221
15	13	315	016	6	77	320	041	623
16	14	216	017	7	88	521	323	124
17	15	117	018	8	99	722	624	526
18	16	018	019	9	10	924	026	028
19	16	119	020	10	11	123	327	429
20	17	020	021	11	12	225	628	831
21	18	021	022	12	13	327	930	133
22	19	022	023	13	14	429	331	734
23	20	023	024	14	15	531	633	235
24	21	024	025	15	16	633	934	637
25	22	025	026	16	17	735	136	841
26	23	026	027	17	18	837	438	142
27	24	027	028	18	19	939	740	545
28	25	028	029	19	20	1041	042	046
29	26	029	030	20	21	1143	344	848
30	27	030	031	21	22	1245	646	150



The length of any Plastering or  
other Work in Feet.

	16	17	18	19	20	21	22
	Y. F.	Y. F.	Y. F.	Y. F.	Y. F.	Y. F.	Y. F.
1	1 7 1	8 2 0	2 1 2	2 2 3	3 2 4		
2	3 5 3	7 4 0	4 2 4	4 4 6	6 4 8		
3	5 3 5	6 6 0	6 3 6	6 7 7	7 7 3		
4	7 1 7	5 8 0	8 4 8	8 9 3	9 3 9		
5	8 8 9	4 10 0	10 5 11	11 6 12	2 2		
6	10 6 11	3 12 0	12 6 13	3 14 0	14 6		
7	12 4 13	2 14 0	14 7 15	5 16 3	17 1		
8	14 2 15	1 16 0	16 8 17	7 18 6	19 5		
9	16 0 17	0 18 0	19 0 20	0 21 0	22 0		
10	17 7 18	8 20 0	21 1 22	2 23 3	24 4		
11	19 5 20	7 22 0	23 2 24	4 25 6	26 1 8		
12	21 3 22	6 24 0	25 3 26	6 28 0	29 1 3		
13	23 1 24	5 26 0	27 4 28	8 30 3	31 7		
14	24 8 26	4 28 0	29 5 31	1 33 6	34 1 2		
15	26 6 28	3 30 0	31 6 33	3 35 0	36 6		
16	28 4 30	2 32 0	33 7 35	5 37 3	39 1		
17	30 2 32	1 34 0	35 8 37	7 39 6	41 5		
18	32 0 34	0 36 0	38 0 40	0 42 0	44 0		
19	33 8 35	8 38 0	40 1 42	2 44 3	46 4		
20	35 5 37	7 40 0	42 2 44	4 46 6	48 8		
21	37 3 39	6 42 0	44 3 46	6 49 0	51 2		
22	39 1 41	5 44 0	46 4 48	8 51 3	53 7		
23	40 8 43	4 46 0	48 5 51	1 53 6	56 2		
24	42 6 45	3 48 0	50 6 53	3 56 0	58 6		
25	44 4 47	2 50 0	52 7 55	5 58 3	61 1		
26	46 2 49	1 52 0	54 8 57	7 60 6	63 5		
27	48 0 51	0 54 0	57 0 60	0 63 0	66 0		
28	49 8 52	8 56 0	58 1 62	2 65 3	68 4		
29	50 5 54	7 58 0	61 2 64	4 67 6	70 8		
30	53 3 56	6 60 0	63 3 66	6 70 0	73 3		

The breadth of any Plastering or other Work in Feet.

The breadth of any Plastering or other Work in Feet.

The length of any Plastering or  
other Work in Feet.

	23	24	25	26	27	28	29	30
	Y. F.	Y. F.	Y. F.	Y. F.	Y. F.	Y. F.	Y. F.	Y. F.
1	2 52	62	72	83	03	13	23	3
2	5 15	35	55	76	06	26	46	6
3	7 68	08	38	69	09	39	610	0
4	10 210	611	111	512	012	412	813	3
5	12 713	313	814	415	015	516	116	6
6	15 316	016	617	318	018	619	320	0
7	17 818	619	520	221	021	722	523	3
8	20 421	1322	223	124	024	825	726	6
9	23 024	025	026	027	028	029	030	0
10	25 526	627	728	830	031	132	233	3
11	28 132	030	533	733	034	235	436	6
12	35 638	633	334	636	037	338	640	0
13	33 237	336	139	539	040	441	843	3
14	35 740	038	840	442	043	545	146	6
15	38 342	641	643	345	046	648	350	0
16	40 845	344	446	248	049	751	553	3
17	43 448	047	249	151	052	854	756	6
18	46 050	650	052	054	056	058	060	0
19	48 553	352	754	857	059	161	263	3
20	51 156	055	557	760	062	264	466	6
21	53 658	658	360	663	065	367	670	0
22	56 261	361	163	566	068	470	873	3
23	58 764	063	866	469	071	574	176	6
24	61 366	666	669	372	074	677	380	0
25	63 869	369	472	275	077	780	583	3
26	66 472	072	275	178	080	883	786	6
27	69 074	675	078	081	084	087	090	0
28	71 577	377	780	884	087	190	293	3
29	74 180	080	583	787	090	293	496	6
30	76 6	83	386	690	093	396	6100	0

The breadth of any Plastering or other Work in Feet.

**P**laisterers, Joiners, Painters, and Paviers, measure their works by the *Yard Square*, which is 5 Foot every way, the Yard containing 9 Square Feet. For the ready computing or casting up of any such work, I have calculated the foregoing Table, which shows how many Square Yards are contained in any Piece of Work, the length and breadth thereof being given in Feet.

### *The Explanation of the Table.*

**T**HE Table consisteth of 8 Columns. In the first whereof is set down the *breadth* of any *Plasterers, Joiners, Painters* or *Paviors* work; beginning at one Foot broad, and downwards by 2, 3, 4, 5, &c. to 30 Feet, or 10 Yards. The other 30 Columns having the figures 1, 2, 3, 4, 5, &c. at the top or head of each of them, signifieth the *length* of any such work. So that if you find the *breadth* in the first Column of the Table; and the *length* at the head thereof, in the common meeting of these two numbers, you shall find the quantity of *Square Yards* contained in any piece of Work; whose *length* and *breadth* is given in Feet.

### *The Use of the Table by Examples.*

**Example 1.** *A Plasterer hath laid a Ceiling, containing 28 Feet in breadth, and 29 Feet in length, how many Square Yards are there in that Ceiling?*

Find

Find 28 Foot in the first Column of the Table, and right against it, in that Column which hath 20 at the head thereof, you shall find 90 Yards, and 2 Feet, and so many Square Yards are there in that Cieling.

**Example 2.** *Suppose a Room 7 feet high, and 28 Feet broad, how many Yards Square is Wainscoting in there, and the Room?*  
 In measuring of Joyners Work, it is at the top thereof there be an Architrave, Brize and Cornice, they measure both the depth and length of their Work by a String laid close to every Molding, and over every Stile; so that their length and breadth will be always more than the upright height, and direct length of the sides of the Room; for say they, *We must be paid for all there our Plain gages.* The Painter also says, *We must be paid where his Brush goes.* And the Plasterer in freest Cielings, must also measure over all the frettings or hollows of his Work, as the Joyners do over their Moldings. These things considered; the height of the Room Wainscoted being 7 Foot, and 28 Foot about; find 28 Foot at the top of the Table, and 7 Foot in the first Column, and right against 7, and under 28, you shall find 21 Yards, and 7 Foot, which is somewhat above 3 quarters of a Yard.

Example

**Example 3.** A Painter hath Painted a large Hall in Oyl, the height whereof is 23 Feet; and it is 120 Feet about, how many Square Yards of Painting is there in this Hall?

Here, because the Compass about the Hall exceedeth the numbers in the Table, take therefore one quarter thereof, which is 30 Feet; then find 23 the height, in the first Column of the Table, and 30 (the quarter of the length or circuit) in the head of the Table, and under 30, and against 23, you shall find 76 Yards, and 6 Foot. And now because 30 was but one quarter of the Circuit of the Room, therefore 76 Yards 6 Foot, is but one quarter of the Yards of Painting; wherefore set down 76 Yards 6 Foot four times, and add them together as in the Margine, and the Sum of them will be 306 Yards, 6 Feet, and so much Painting is there in that Room.

76	6
76	6
76	6
76	6
<hr/>	
306	6

**A TABLE** shewing the quantity of the length of one Rod of Wall in Feet and Inches, for any height, from 1 Foot high to 30 Foot high.

Feet	Fr.	In.
1	272	3
2	136	1
3	68	9
4	54	0
5	45	5
6	38	4
7	34	1
8	34	0
9	30	3
10	27	2
11	22	4
12	22	0
13	20	11
14	19	5
15	18	2
16	17	0
17	16	0
18	15	2
19	14	4
20	13	0
21	13	0
22	12	4
23	11	10
24	11	5
25	10	11
26	10	6
27	10	1
28	9	9
29	9	5
30	9	1

The height of any Brick-wall, or House side, in Feet.

The quantity of one Rods length in Feet and Inches.

**B**rick-layers do measure Ball Brickwork, whether Walls about Gardens, Parks, or other enclosed places, as also the Walls of Houses, by the Rod or Pole of 16 foot and an half, measured upon the Superficies or outside of the Wall or Building. Now for the ready measuring of such Wall or Brickwork, I have Calculated this Table, which shews upon any Wall, from 1 foot high to 30 foot high, how much in length thereof shall make a Square Rod or Pole.

### *An Explanation of the Table.*

**T**HE TABLE consists of two Columns, the first whereof contains the number of feet that any Wall or Building is in height, from 1 foot to 30 foot high. The second Column declareth, that



that if a Wall be so many foot high, there must go so many feet and inches thereof in length, to make a Rod Square.

## The Use of the Table by Examples.

**Example 1.** If a Brick Wall be 9 foot high, how much thereof in length will make a Square Rod?

Find 9 Foot the height of the Wall, in the first Column of the Table, and right against it, in the second Column, you shall find 30 foot, and 3 inches; and so much in the length thereof must go to make a Rod Square.

**Example 2.** If a Wall or House side be 22 foot high, how much in length thereof will make a Rod Square?

Find 22 the height, in the first Column, and right against it in the second Column, you shall find that 12 Foot and 4 inches thereof in length, must go to make a Square Rod.

And thus much shall suffice for the Use of these Tables.

### Conclusion.

**A**S Bricklayers measure all their Brick-work by the Square Rod; so they reduce all their Work of what thickness soever the Wall be, to the thickness of a Wall of one Brick and half, so that if a Wall be 24 Rod upon the Superficies thereof

thereof, and that Wall be a Brick and half thick then that Wall contains 24 Rod.

But, If a Wall be 24 Rod upon the Superficies or outside thereof, and that Wall be 3 Bricks and half thick, this Wall reduced to Brick and half thick, will contain 56 Rod.

Now for the easie reducing of any Wall of any thickness, not exceeding 10 Bricks thick, to the thickness of Brick and half, I have constituted several numbers for the thickness of all Walls, from Brick and half, to 10 Bricks thick. By help of which numbers, and the fore-going Table, in Page 166, Shewing the true Square of any unequal faced Timber, you may by adding of two numbers together, reduce any Wall to Brick and half.

The Constituted Numbers are these following.

2 Bricks thick	014494
2 and half	022185
3 Bricks	030103
3 and half	038797
4 Bricks	042596
4 and half	047712
5 Bricks	052288
5 and half	056427
6 Bricks	060206
6 and half	063682
7 Bricks	066900
7 and half	069897
8 Bricks	072699
8 and half	075332
9 Bricks	077815
9 and half	080163
10 Bricks	082390

Write  
down  
this  
number

The Use of these Numbers, with the fore-  
mentioned Table of the Square of  
unequal sided Timber, made plain  
by Examples.

Example 1. If a Brick Wall, 3 Bricks and half  
thick, doth contain 24 square Rod upon the Su-  
perficie or outside thereof, how many Rod do  
that Wall contain, it being reduced to Brick and  
half?

To effect this, set down the Constitution num-  
ber belonging to 3 Bricks and half, which is  
036797. Then because there is 24 Rod of Wall  
look in the Table of the Square of un-  
equal sided Timber, for the number  
24, against which you shall find this  
number 138021; add this number to  
the former constituted number, and  
the Sum of them is 174818, as in the  
Margine. Look for this number in the former  
Table of Page 166 (or the nearest you can  
find to it) and you shall find it to stand against 56  
which shews, that in the Wall, it being reduced  
to Brick and half, there is 56 Rod. And so of any  
other.

Example 2. If a Brick Wall of 5 Bricks and half  
thick, do contain upon the Superficie thereof 12  
Rod, how many Rod will that Wall contain,  
being reduced to a Brick and half?

The Constituted number belonging to 5 Bricks  
and

and half thick, is 056427, and the number in the Table against 11 Rod, is 104139, these two numbers added together, as in the Margine, make 160566. Look in 156427 the Table for this number, or the nearest to it, and you shall find the nearest 104139 number to it to be 160205, which 160566 number stands against 40, which declares that this Wall of 11 Rod, being reduced to Brick and half, will contain 40 Rod, and somewhat more, because the number of 160566 is greater than 160205, by 361, that is, by the 361 parts of a Million,  $\frac{361}{1000000}$ , a part in considerable.

But when the difference sought, and the number found, shall be 250000 then allow a quarter of a Rod; when 500000, then half a Rod; when 750000, then three quarters of a Rod.

Q 3

A

and half thick, is 07427, and the number in  
the Table against Rod, is 104139, the two  
numbers added together, as usual, make 111586  
the Table for this number, or the new 104139  
plus 104139, and you shall find the next  
number to it to be 108257, which 108257  
number stands against Rod, being reduced  
clearly that this Rod, being reduced  
to Black and Red, will contain 10 Rod, and  
some what more; the next number of 108257  
is greater than 108257, by 361, that is, by the  
361 parts of a Million 1000000, but in con- sider-  
ation of the Table.

But when the Rod is 108257, and the num-  
ber found, shall be 25000, then allow a quar-  
ter of Rod, which 25000, then half Rod,  
when 25000, then the quarters of Rod.

A

Q 3



A


# T A B L E

Shewing the Price of any Number of  
Odd Feet

O F

## BRICK-WORK

Or any other Work wrought by  
the Rod) from 1 Foot to 34 Foot (which  
is the half quarter of a Rod) and at  
any Rate, as from 1 1/2 the Rod, to 10 1/2  
the Rod, ready cast up.





The Price of any Number of Feet under 34.

Price of the Rod	Rod	1 s.	2 s. 6 d.	5 s.	10 s.
	$\frac{1}{2}$ Rod	9 d.	1 s. 10 d. 2 q.	3 s. 9 d.	7 s. 6 d.
	$\frac{1}{3}$ Rod	6 d.	1 s. 3 d.	2 s. 6 d.	5 s.
	$\frac{1}{4}$ Rod	3 d.	7 d. 2 q.	1 s. 3 d.	2 s. 6 d.
	$\frac{1}{5}$ Rod	1 d. 12 q.	3 d. 3 q.	7 d. 2 q.	1 s. 3 d.
		s. d. q.	s. d. q.	s. d. q.	s. d. q.
33			0 3 2	0 7 1	1 2 1
32			0 3 2	0 7 0	1 1 3
31			0 3 1	0 6 3	1 1 2
30			0 3 1	0 6 2	1 1 0
29			0 3 0	0 6 1	1 0 2
28			0 3 0	0 6 0	1 0 0
27			0 2 3	0 5 3	0 11 3
26			0 2 3	0 5 2	0 11 0
25			0 2 2	0 5 1	0 10 3
24			0 2 2	0 5 0	0 10 1
23			0 2 1	0 4 3	0 9 3
22			0 2 1	0 4 2	0 9 1
21			0 2 0	0 4 1	0 9 0
20			0 2 0	0 4 1	0 8 2
19			0 1 3	0 3 3	0 7 0
18			0 1 3	0 3 2	0 7 1
17			0 1 2	0 3 2	0 7 0
16			0 1 2	0 3 1	0 6 3
15			0 1 2	0 3 0	0 6 1
14			0 1 1	0 2 3	0 5 3
13			0 1 1	0 2 2	0 5 1
12			0 1 1	0 2 2	0 5 0
11			0 1 0	0 2 1	0 4 2
10			0 1 0	0 2 0	0 4 0
9			0 0 3	0 1 3	0 3 2
8			0 0 3	0 1 2	0 3 0
7			0 0 2	0 1 1	0 2 3
6			0 0 2	0 1 0	0 2 1
5			0 0 1	0 0 3	0 1 3
4			0 0 1	0 0 3	0 1 1
3			0 0 1	0 0 2	0 1 1
2			0 0 0	0 0 1	0 0 3
1			0 0 0	0 0 0	0 0 1

6 d.  
5 d.  
3 d.  
q.  
1  
3  
2  
0  
2  
0  
0  
11 3  
11 0  
10 3  
10 1  
9 3  
9 1  
0  
0  
3 2  
7 0  
6 3  
6 1  
5 3  
5 1  
0  
1 2  
4 0  
3 2  
3 0  
2 3  
2 1  
1 3  
1 1  
0 3  
0 1

Price of the Feet	Red			20 s.			30 s.			40 s.			50 s.		
	$\frac{1}{2}$ Red			15 s.			22 s. 6 d.			30 s.			37 s. 6 d.		
	$\frac{1}{4}$ Red			10 s.			15 s.			20 s.			25 s.		
	$\frac{1}{8}$ Red			5 s.			7 s. 6 d.			10 s.			12 s. 6 d.		
	$\frac{1}{16}$ Red			2 s. 6 d.			3 s. 9 d.			5 s.			6 s. 3 d.		
The Price of any Number of Feet under 34				s.	d.	q.	s.	d.	q.	s.	d.	q.	s.	d.	q.
33	2	4	2	3	6	3	4	9	0	5	11	1			
32	2	3	2	3	5	1	4	7	0	5	8	3			
31	2	2	3	3	4	1	4	5	2	5	7	0			
30	2	1	3	3	2	3	4	3	2	5	4	2			
29	2	1	0	3	1	2	4	2	0	5	2	2			
28	2	0	0	3	0	0	4	0	0	5	0	0			
27	1	11	1	2	11	0	3	10	2	4	10	1			
26	1	10	1	2	9	1	3	8	2	4	7	2			
25	1	9	1	2	8	0	3	6	2	4	5	1			
24	1	8	2	2	6	3	3	5	0	4	3	1			
23	1	7	2	2	5	1	3	3	0	4	0	3			
22	1	6	3	2	4	0	3	1	2	3	10	3			
21	1	6	0	2	3	0	3	0	0	3	9	0			
20	1	5	0	2	1	2	2	10	0	3	6	2			
19	1	4	0	1	11	0	2	8	0	3	3	0			
18	1	3	1	1	10	3	2	6	2	3	2	0			
17	1	2	1	1	9	1	2	4	2	2	11	2			
16	1	1	2	1	8	1	2	3	0	2	9	3			
15	1	0	2	1	6	3	2	1	0	2	7	1			
14	0	11	2	1	5	1	1	11	0	2	4	3			
13	0	10	3	1	4	0	1	9	2	2	2	3			
12	0	10	0	1	3	0	1	8	0	2	1	0			
11	0	9	0	1	1	2	1	6	0	1	10	2			
10	0	8	0	1	0	0	1	4	0	1	8	0			
9	0	7	1	0	10	3	1	2	2	1	6	0			
8	0	6	1	0	9	1	1	0	2	1	3	2			
7	0	5	2	0	8	1	0	11	0	1	1	0			
6	0	4	2	0	6	3	0	9	0	0	11	1			
5	0	3	3	0	5	2	0	7	2	0	9	1			
4	0	2	3	0	4	0	0	5	2	0	6	3			
3	0	2	1	0	3	2	0	4	2	0	5	3			
2	0	1	2	0	2	1	0	3	0	0	3	3			
1	0	0	3	0	1	0	0	1	2	0	1	3			

Price of the	Rod			3 Rod			4 Rod			5 Rod			10 Rod		
	Rod			3 Rod			4 Rod			5 Rod			10 Rod		
	Rod			3 Rod			4 Rod			5 Rod			10 Rod		
	Rod			3 Rod			4 Rod			5 Rod			10 Rod		
	Rod			3 Rod			4 Rod			5 Rod			10 Rod		
The Price of any Number of Feet under 34															
	s	d	q	s	d	q	s	d	q	s	d	q			
33	7	1	2	9	6	0	11	10	2	1	3	9	0		
32	6	10	2	9	2	0	11	5	2	1	2	11	0		
31	6	8	1	8	11	0	11	1	3	1	2	3	2		
30	6	5	8	7	0	0	10	8	3	1	1	5	2		
29	6	3	0	8	4	0	10	5	0	1	0	10	0		
28	6	0	0	8	0	0	10	0	0	1	0	0	0		
27	5	9	3	7	9	0	9	8	1	0	19	4	2		
26	5	6	3	7	5	0	9	3	1	0	18	6	2		
25	5	3	3	7	1	0	8	10	1	0	17	8	2		
24	5	1	2	6	10	0	8	6	2	0	17	0	0		
23	4	16	2	6	6	0	8	1	2	0	16	3	0		
22	4	8	1	6	3	0	7	9	3	0	15	7	2		
21	4	6	0	6	0	0	7	6	0	0	15	0	0		
20	4	3	0	5	8	0	7	1	0	0	14	2	0		
19	4	0	0	5	4	0	6	8	0	0	13	4	0		
18	3	9	3	5	1	0	6	4	1	0	12	8	2		
17	3	6	3	4	9	0	5	11	1	0	11	10	2		
16	3	4	2	4	6	0	5	7	2	0	11	2	0		
15	3	1	2	4	2	0	5	2	2	0	10	5	0		
14	2	10	2	3	10	0	4	9	2	0	9	6	0		
13	2	8	1	3	7	0	4	5	3	0	8	5	2		
12	2	6	0	3	4	0	4	2	0	0	8	4	0		
11	2	3	0	3	0	0	3	9	0	0	7	6	0		
10	2	0	0	2	8	0	3	4	0	0	6	8	0		
9	1	9	3	2	5	0	3	0	1	0	6	0	2		
8	1	6	3	2	1	0	2	7	1	0	5	2	2		
7	1	4	2	1	10	0	2	3	2	0	4	7	0		
6	1	1	2	1	6	0	1	10	2	0	3	8	0		
5	0	11	1	1	3	0	1	6	3	0	3	1	2		
4	0	8	1	0	11	0	1	3	0	0	2	3	2		
3	0	6	5	0	9	0	1	1	1	0	1	10	2		
2	0	4	2	0	6	0	0	7	2	0	1	3	0		
1	0	2	1	0	2	0	0	3	3	0	0	7	2		

*An Explanation of the fore-going Table.*

**A**T the head of the Table, and over the head of each respective Column, you have the Price of the Rod, 3 Quarters of the Rod, half Rod, Quarter of the Rod and half Quarter of the Rod, of Brick-work, or any other work wrought by the Rod: And that at any Price from 1 Shilling the Rod to 10 *l.* the Rod and upwards, as will appear hereafter.

Then in the first Column of the Table towards the left hand, you have any Number of Odd Feet, from 1 to 34, which is the half Quarter of the Rod, descending by 33, 32, 31, 30, &c. to 1 Foot at the bottom of the Table: And in the other respective Columns you have the Price of any Number of odd Feet under its respective Price by the Rod.

*The Use of the TABLE.*

**F**ind the Price of the Rod at the head of the Table, and just under it you have the Price of the 3 Quarters, the half, the Quarter and half Quarter of the Rod, and underneath them you have the Price of any Number of odd Feet under 34.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34

*Example.*

*Example: 1.*

*At 50 s. the Rod, what is the Price of 3 Quarters of a Rod, half a Rod, a Quarter of a Rod, half a Quarter of a Rod, and 21 odd Feet?*

	<i>l.</i>	<i>s.</i>	<i>d.</i>	<i>q.</i>
The Price of the Rod is	2	10	0	0
The 3 Quarters of the Rod	1	17	6	0
The half Rod	1	5	0	0
The Quarter of the Rod	0	12	6	0
The half Quarter of the Rod	0	6	3	0
The 21 odd Feet	0	4	0	3

*Example 2.*

*At 30 s. the Rod, what comes 27 Foot to?*

Look at the head of the Table for 30 s. (the Price of the Rod) then look in the first Column towards your left hand for the 27 odd Feet, then just against 27 Foot, and in the Column under 30 s. you shall find 2 s. 11 d. And so much doth 27 odd Feet come to at 30 s. the Rod.

*And in the same manner you may find that*

<i>s.</i>		<i>Foot</i>		<i>s.</i>	<i>d.</i>	<i>q.</i>
At	{ 5 20 50 37 104 }	{ The Rod, that }	{ 26 17 29 18 12 }	will come to	{ 0 1 5 3 8 }	{ 5 2 2 9 4 }
						And

And so of any other rate by the Rod, or any other Number of Feet under 34, which is the half Quarter of the Rod.

*Example 3.*

*At 5 l. 10 s. the Rod, what comes 29 Foot to?*

In the head of the Table you cannot find 5 l. 10 s. the Price of the Rod enquired, but you may find 5 l. and at 5 l. the Rod 29 Foot will come to 10 s. 5 d. 0 q. and then at 10 s. the Rod, 29 Foot will come to 1 s. 0 d. 2 q. which added to the former makes 11 s. 5 d. 2 q. for the Price of 29 Foot at 5 l. 10 s. the Rod.

	s.	d.	q.
29 Foot at 5 l. is	10	5	0
29 Foot at 10 s. is	1	0	2
29 Foot at 5 l. 10 s. is	11	5	2

*Example 4.*

*At 9 l. the Square, what comes 16 Foot to?*

	s.	d.	q.
16 Foot at 5 l. is	5	7	2
16 Foot at 4 l. is	4	6	0
16 Foot at 9 l. is	10	1	2

*Example.*



And to carry over the No. of any other Number of Feet, to the Quarter of the No.

**Example 5.**

**At 7l. 17s. 6d. What comes 20 Foot to?**

20 Foot at 7l. 17s. 6d.	1	4	9
20 Foot at 2l. 1s.	2	10	0
20 Foot at 18s. 1d.	1	8	0
20 Foot at 5s. 1d.	1	4	0
20 Foot at 2s. 6d. 1s.	1	1	0
20 Foot at 7l. 17s. 6d. 1s.	1	1	0

20 Foot at 7l. 17s. 6d.	1	4	9
20 Foot at 2l. 1s.	2	10	0
20 Foot at 18s. 1d.	1	8	0
20 Foot at 5s. 1d.	1	4	0
20 Foot at 2s. 6d. 1s.	1	1	0

10 Foot at 7l. 17s. 6d.	1	4	9
10 Foot at 2l. 1s.	2	10	0
10 Foot at 18s. 1d.	1	8	0
10 Foot at 5s. 1d.	1	4	0
10 Foot at 2s. 6d. 1s.	1	1	0



A

# TABLE

Shewing the Price of any Number of  
Odd Feet

OF

Rooffing, Flooring, Parti-  
tioning, Tiling,

(Or any other work wrought by the  
Square of 10 Foot) from 1 Foot to 25  
Foot (which is one quarter of a Square)  
and at any Rate, as from 2 s. 6 d. the  
Square, to 5 or 10 l. the Square and up-  
wards, ready cast up.



The Price of the Square, half Square, and Quarter of a Square.

The Price of the	{	Squ.	5s.	6s.	7s.	8s.
		$\frac{1}{2}$ Sq.	3s. 9d.	4s. 6d.	5s. 3d.	6s.
		$\frac{1}{4}$ Sq.	2s. 6d.	3s.	3s. 6d.	4s.
		$\frac{1}{8}$ Sq.	1s. 3d.	1s. 6d.	1s. 9d.	2s.
			s. d. q.	s. d. q.	s. d. q.	s. d. q.
The Price of any Number of Feet under 25.	24	1 2 1	1 5 1	1 7 3	1 11 0	
	23	1 1 3	1 4 2	1 6 2	1 10 1	
	22	1 1 0	1 3 3	1 5 3	1 9 0	
	21	1 0 3	1 3 0	1 5 0	1 8 1	
	20	1 0 0	1 2 1	1 4 1	1 7 0	
	19	0 11 2	1 1 2	1 3 2	1 6 1	
	18	0 10 3	1 0 3	1 2 2	1 5 0	
	17	0 10 1	1 0 0	1 1 3	1 4 1	
	16	0 9 2	0 11 1	1 1 0	1 3 0	
	15	0 9 0	0 10 2	1 0 0	1 2 1	
	14	0 8 2	0 9 3	0 11 1	1 1 2	
	13	0 7 3	0 9 0	0 10 2	1 0 1	
	12	0 7 1	0 8 1	0 9 3	0 11 2	
	11	0 6 3	0 7 2	0 9 0	0 10 2	
	10	0 6 0	0 6 3	0 8 1	0 9 2	
	9	0 5 2	0 6 0	0 7 1	0 8 3	
	8	0 4 3	0 5 1	0 6 2	0 7 3	
	7	0 4 0	0 4 2	0 5 3	0 6 3	
	6	0 3 3	0 3 3	0 5 0	0 5 3	
	5	0 3 0	0 3 0	0 4 0	0 4 3	
	4	0 2 1	0 2 1	0 3 1	0 3 3	
	3	0 1 3	0 1 3	0 2 2	0 3 0	
	2	0 1 1	0 1 0	0 1 3	0 2 0	
	1	0 0 3	0 0 3	0 0 3	0 1 0	

The Price of any Number of Feet under 25.

The Price of the Square, half Square, and Quarter of a Square.

The Price of the Square	Square	9 s.	10 s.	11 s.	12 s.
	$\frac{3}{4}$ Squ.	6 s. 9 d.	7 s. 6 d.	8 s. 3 d.	9 s.
	$\frac{1}{2}$ Squ.	4 s. 6 d.	5 s.	5 s. 6 d.	6 s.
	$\frac{1}{4}$ Squ.	2 s. 3 d.	2 s. 6 d.	2 s. 9 d.	3 s.
The Price of any Number of Feet under 25.		s. d. q.	s. d. q.	s. d. q.	s. d. q.
24		2 1 0	2 4 3	2 7 2	2 10 2
23		2 0 3	2 3 2	2 6 1	2 9 0
22		1 11 3	2 2 1	2 4 3	1 7 2
21		1 10 3	2 1 1	2 3 3	1 6 0
20		1 9 2	2 0 0	2 2 1	1 4 2
19		1 8 2	1 10 3	2 1 0	1 3 0
18		1 7 2	1 9 2	1 11 2	1 1 2
17		1 6 1	1 8 1	1 10 1	2 1 0
16		1 5 1	1 7 1	1 8 3	1 10 2
15		1 4 1	1 6 0	1 7 2	1 9 0
14		1 3 0	1 4 3	1 6 1	1 7 2
13		1 2 0	1 3 2	1 4 3	1 6 0
12		1 1 0	1 2 1	1 3 2	1 4 2
11		1 0 0	1 1 1	1 2 1	1 3 0
10		0 10 3	1 0 0	1 0 3	1 1 2
9		0 9 3	0 10 3	0 11 2	1 0 0
8		0 8 3	0 9 2	0 10 0	0 10 2
7		0 7 2	0 8 1	0 8 2	0 9 0
6		0 6 2	0 7 1	0 7 2	0 7 2
5		0 5 2	0 6 0	0 6 0	0 6 0
4		0 4 1	0 4 3	0 4 2	0 4 2
3		0 3 1	0 3 2	0 3 2	0 2 2
2		0 2 1	0 2 1	0 2 1	0 2 0
1		0 1 0	0 1 1	0 1 2	0 1 2

The Price of the Square, half Square, and Quarter of a Square.

The Price of the	Squ.	13 s.	14 s.	20 s.	30 s.	40 s.
	$\frac{1}{2}$ Sq.	9 s. 0 d.	10 s. 6 d.	15 s.	22 s. 6 d.	30 s.
	$\frac{1}{3}$ Sq.	6 s. 6 d.	7 s.	10 s.	15 s.	20 s.
	$\frac{1}{4}$ Sq.	3 s. 3 d.	3 s. 6 d.	5 s.	7 s. 6 d.	10 s.
		s. d. q.	s. d. q.	s. d. q.	s. d. q.	s. d. q.
24	3 1 1	3 3 2	4 9 2	7 2 1	9 7 0	
23	3 0 0	3 1 0	4 7 1	6 10 3	9 2 2	
22	2 10 0	2 11 2	4 4 3	6 6 0	8 9 3	
21	2 9 0	2 10 0	4 2 2	6 3 3	8 5 0	
20	2 7 0	2 8 2	4 0 0	6 0 0	8 0 0	
19	2 5 3	2 7 0	3 9 2	5 8 1	7 7 0	
18	1 3 3	2 5 0	3 7 1	4 4 3	6 2 2	
17	1 2 2	2 3 2	3 4 3	4 1 0	6 9 2	
16	1 0 2	2 2 0	3 2 2	4 9 3	6 5 5	
15	1 11 1	2 0 0	3 0 0	4 6 0	6 0 0	
14	1 10 0	1 10 2	2 9 2	4 2 1	6 7 7	
13	1 8 0	1 9 0	2 7 1	3 10 3	5 2 2	
12	1 6 3	1 7 2	2 4 3	3 7 0	4 9 9	
11	1 5 1	1 6 0	2 2 2	3 3 3	4 5 5	
10	1 3 2	1 4 2	2 0 0	3 0 0	4 0 0	
9	1 2 1	1 2 2	1 9 2	2 8 1	3 7 7	
8	1 0 2	1 1 0	1 7 1	2 4 3	3 2 2	
7	0 10 3	0 11 2	1 4 3	2 1 0	3 9 9	
6	0 8 2	0 10 0	1 2 2	1 9 3	2 5 5	
5	0 7 3	0 8 0	1 0 0	1 6 0	2 0 0	
4	0 5 2	0 6 2	0 9 2	1 2 1	1 7 7	
3	0 4 3	0 5 0	0 7 1	1 0 3	1 2 2	
2	0 3 1	0 3 2	0 4 3	0 7 0	0 9 9	
1	0 1 3	0 1 2	0 2 2	0 3 3	0 5 5	

*An Explanation of the fore-going Table.*

**A**T the head of the Table, you have the Price of the Square, 3 Quarters of the Square, the half Square, and the Quarter of the Square set over each respective Column, and that from 5 s. the Square to 40 s. the Square, and consequently to 5 or to 10 l. the Square, as shall be shewed hereafter.

Then in the first Column, towards the left hand, you have any Number of Odd Feet, from 1 to 25; which is a Quarter of a Square, descending by 24, 23, 22, 21, &c. to 1 Foot at the bottom: And in the other respective Columns, you have the Price of any Number of odd Feet under its respective Price, by the Square. This for the Description, now followeth,

*The Use of the TABLE.*

**F**ind the Price of the Square at the head of the Table, and just under it you have the Price of the 3 Quarters, the half, and the Quarter of the Square; and underneath them, you have the Price of any Number of Feet under 25.

R 2

Example.



*Example 1.*

*At 11s. the Square, what is the Price of the 3 Quarters of a Square, the half Square, the Quarter of the Square, and of 17 odd Feet?*

	<i>l.</i>	<i>s.</i>	<i>d.</i>	<i>q.</i>
The Square is	—	—	—	—
The 3 Quarters of a Square	—	—	—	—
The half Square	—	—	—	—
The Quarter of the Square	—	—	—	—
The 17 odd Feet	—	—	—	—

*Example 2.*

*At 14s. the Square, what comes 9 odd Feet to?*

Look at the head of the Table for 14s. (the Price of the Square) then look in the first Column towards your left hand for the 9 odd Feet, then just against 9, and in the Column of 14s. you shall find 1s. 2d. 2q. And so much doth the 9 Feet come to at 14s. the Square.

*And in this manner you may find that*

<i>s.</i>		Odd Feet		<i>s.</i>	<i>d.</i>	<i>q.</i>
5		18		0	10	3
7		11		0	9	0
10		7		0	8	1
13	The Square	9	will	1	2	1
20	that	21	come	4	2	2
30		16	to	4	9	3
40		4		1	7	0

And

And so of any other Rate by the Square, or any other Number of Feet under 25, which is a Quarter of a Square.

*Example 3.*

*At 35 s. the Square, what comes 19 Foot to?*

In the head of the Table you cannot find 397. the Price of the Square, But you may find 30 s. and at 30 s. the Square, 19 Foot will come to 5 s. 8 d. 1 q. And then at 5 s. the Square, 19 Foot will be found to come to 11 d. 2 q. which added to the former 5 s. 8 d. 1 q. makes 6 s. 9 d. 3 q. for the Price of 19 Foot, at 35 s. the Square.

19 Foot at 30 s. is	5	8	1
19 Foot at 5 s. is	0	11	2
19 Foot at 35 s. is	6	7	3

*Example. 4.*

*At 50 s. the Square, what comes 17 Foot to?*

17 Foot at 30 s. is	5	1	0
17 Foot at 20 s. is	3	4	3
17 Foot at 50 s. is	8	5	3





A

# TABLE

Shewing what any Number of Odd Feet  
in any Superficial or Solid

## YARD-MEASURE

Does come unto,

For any Price by the Yard, from  
Farming the Yard to  $\frac{1}{2}$  the Yard  
or upwards, ready cast up.



## The Number of Odd Feet.

Feet Superficial			1	2	3
			s. d. q.prs.	s. d. q.prs.	s. d. q.prs.
The Price of the Yard, in	Pence.	Farthings	0 0 0.11	0 0 0.22	0 0 0.33
		1	0 0 0.22	0 0 0.44	0 0 0.67
		2	0 0 0.33	0 0 0.66	0 0 1.00
		3	0 0 0.44	0 0 0.89	0 0 1.33
		4	0 0 0.89	0 0 1.78	0 0 2.66
		5	0 0 1.33	0 0 2.67	0 1 0.00
		6	0 0 1.77	0 0 3.54	0 1 1.33
		7	0 0 2.22	0 1 1.43	0 1 2.66
		8	0 0 2.66	0 1 2.32	0 2 0.00
		9	0 0 3.10	0 1 3.21	0 2 1.33
		10	0 0 3.55	0 2 0.10	0 2 2.66
	Shillings.	1	0 1 0.00	0 2 0.99	0 3 0.00
		2	0 1 0.44	0 2 1.88	0 3 1.33
		3	0 1 0.89	0 2 2.77	0 3 2.66
		4	0 1 1.33	0 2 2.66	0 4 0.00
		5	0 2 2.66	0 5 1.33	0 8 0.00
		6	0 4 0.00	0 8 0.08	1 0 0.00
		7	0 5 1.33	0 10 2.66	1 4 0.00
		8	0 6 2.66	1 11 1.33	1 8 0.00
		9	0 8 0.00	1 14 0.00	2 0 0.00
		10	0 9 1.33	1 6 2.66	2 4 0.00
	Pounds	1	0 10 2.66	1 9 1.33	2 8 0.00
		2	1 0 0.00	2 10 0.00	3 0 0.00
		3	1 1 1.33	2 12 2.66	3 4 0.00
		4	2 2 2.67	4 5 1.33	6 8 0.00
		5	4 5 1.33	8 10 2.67	13 4 0.00
		6	6 8 0.00	13 4 0.00	20 0 0.00
		7	9 10 2.67	17 9 1.33	26 8 0.00
		8	12 1 1.33	23 2 2.67	33 4 0.00
		9			
		10			
		11			
		12			
Feet Solia			3	6	9

## The Number of Odd Feet.

Feet Superficial		4	5	6
The Price of the Yard, in	Farthings	s. d. q. per.	s. d. q. per.	s. d. q. per.
	1	0 0 0.44	0 0 0.55	0 0 0.67
Pence	2	0 0 0.88	0 0 1.10	0 0 1.33
	3	0 0 1.33	0 0 1.65	0 0 2.00
	4	0 0 1.77	0 0 2.22	0 0 2.66
	5	0 0 3.54	0 1 0.44	0 1 1.32
	6	0 1 1.32	0 1 2.66	0 2 0.00
	7	0 1 3.10	0 2 0.88	0 2 2.66
	8	0 2 0.87	0 2 3.10	0 3 1.33
	9	0 2 2.64	0 3 1.32	0 4 0.00
	10	0 2 0.42	0 3 3.54	0 4 2.66
	11	0 3 2.20	0 4 1.76	0 5 1.33
	12	0 3 0.98	0 4 3.98	0 6 0.00
Shillings	1	0 4 1.76	0 5 2.20	0 6 2.66
	2	0 4 3.53	0 6 0.42	0 7 1.32
	3	0 5 1.33	0 6 2.66	0 8 0.00
	4	0 10 2.66	1 1 1.33	1 4 0.00
	5	1 4 0.00	1 8 0.00	2 0 0.00
	6	1 9 1.33	2 2 2.66	2 8 0.00
	7	2 2 2.66	2 9 1.33	3 4 0.00
	8	2 8 0.00	3 4 0.00	4 0 0.00
	9	3 1 1.33	3 10 2.66	4 8 0.00
	10	3 6 2.66	4 5 1.33	5 4 0.00
	11	4 0 0.00	5 0 0.00	6 0 0.00
Pounds	1	4 5 1.33	5 6 2.66	6 8 0.00
	2	8 10 2.67	11 1 1.33	13 4 0.00
	3	17 9 1.33	22 2 2.67	26 8 0.00
	4	26 8 0.00	33 4 0.00	40 0 0.00
	5	35 6 2.67	44 5 1.33	53 4 0.00
Feet Solid		44 5 1.33	55 6 2.67	66 8 0.00
		12	15	18



## The Number of Odd Feet.

Feet Superficial			7	8	A Yard.
			s. d. q. ptes	s. d. q. ptes	s. d. q. ptes
The Price of the Yard, in	Farthings	1	0 0 0.77	0 0 0.88	0 0 1.00
		2	0 0 1.54	0 0 1.76	0 0 2.00
		3	0 0 2.31	0 0 2.66	0 0 3.00
	Pence	1	0 0 3.10	0 0 3.55	0 1 0.00
		2	0 1 2.20	0 1 3.10	0 2 0.00
		3	0 2 1.30	0 2 2.65	0 3 0.00
		4	0 3 0.40	0 3 2.20	0 4 0.00
		5	0 3 3.50	0 4 1.75	0 5 0.00
		6	0 4 2.60	0 5 1.30	0 6 0.00
		7	0 5 1.70	0 6 0.85	0 7 0.00
		8	0 6 0.80	0 7 0.40	0 8 0.00
	Shillings	9	0 6 3.90	0 8 0.95	0 9 0.00
		10	0 7 3.00	0 9 0.50	0 10 0.00
		11	0 8 2.10	0 10 0.05	0 11 0.00
Pounds	1	0 9 1.33	0 10 2.66	1 0 0.00	
	2	1 6 2.67	1 9 1.33	2 0 0.00	
	3	2 4 0.00	2 8 0.00	3 0 0.00	
	4	3 1 1.33	3 6 2.67	4 0 0.00	
	5	3 10 2.67	4 5 1.33	5 0 0.00	
	6	4 8 0.00	5 4 0.00	6 0 0.00	
	7	5 5 1.33	6 2 2.67	7 0 0.00	
	8	6 2 2.67	7 1 1.33	8 0 0.00	
	9	7 0 0.00	8 0 0.00	9 0 0.00	
	10	7 9 1.33	8 10 2.66	10 0 0.00	
Feet Solid			21	24	Yard Solid

*The Table Fore-going, Explained.*

**A**T the head of the Table are the Number of any Odd Feet contained in one Yard of Superficial Measure, beginning at 1 Foot, and so on by 1, 2, 3, &c. to 9 Foot, the Feet in a Superficial Yard; and at the bottom of the Table you have the Number of Feet in a Solid Yard numbered by 3, 6, 9, 12, &c. to 27, the Number of Feet therein contained.

And in the first Column towards the left hand, you have the Price of the Yard, from 1 Farthing to 5 l. the Yard, and in the respective Columns under the Number of Feet, you have the Price thereof in Shillings, Pence, Farthings, and hundred parts of a Farthing.

*The Use of the TABLE.**Example 1.*

*At 7 d. the Yard, what comes 5 Foot to?*

**L**ook for 7 d. in the first Column, and in the same line under 5 Foot, you shall find 0.3. 3. 54, that is, 00 Shillings, 3 Pence, 3 Farthings, and 54 hundred parts of a Farthing, which is somewhat above half a Farthing, and so much doth 5 Foot come to at 7 d. the Yard: And in the same manner you may find, that

11 l. 8 s. 2 d. 11 p. is the Price of 1000 Yards at 7 d. the Yard: And 3 Far-

3 Farthings	} the Yard that	8	} Foot will come to	0 0 0 2 60
4 Pence		6		0 0 2 2 60
11 Pence		3		0 0 3 2 60
6 Shillings		5		3 4 0 0 00
3 Pound		7		2 6 8 0 00

And so of any other.

### Example 2.

At 4 s. 3 d. 2 q. the Yard, What comes 7 Foot to?

There in one Sum in your Table, you cannot find 4 s. 3 d. 2 q. in one Sum, but you may find the Price of that 7 Foot in this manner:

7 Foot at 4 s. the Yard, comes to	3	1	1 33
7 Foot at 3 d. the Yard, comes to	0	2	1 30
7 Foot at 2 q. the Yard, comes to	0	2	1 34
7 Foot at 4 s. 3 d. 2 q. the Yd. comes to	3	6	0 17

### Example 3.

At 2 l. 6 s. 8 d. 3 q. the Yard, what comes 6 1/2 Foot to?

6 Foot at 2 l. the Yard, comes to	1	6	8 0 00
Half a Foot at 2 l. the Yard, comes to	0	2	3 2 67
6 Foot at 6 s. the Yard, comes to	0	4	0 0 00
Half a Foot at 6 s. the Yard, comes to	0	0	1 0 4 00
6 Foot at 8 d. the Yard, comes to	0	0	5 1 33
Half a Foot at 8 d. the Yard, comes to	0	0	0 1 37
6 Foot at 3 q. the Yard, comes to	0	0	0 2 00
Half a Foot at 3 q. the Yard, comes to	0	0	0 0 16
6 Foot at 2 l. 6 s. 8 d. 3 q. the Yard, comes to	1	13	8 3 93
Or to	1	13	9 0 00

Example

*Example 4.*

*At 2 s. 6 d. the Tard Solid, what comes 15 Foot to ?*

Seek 15 Foot at the bottom of the Table, and  
 2 s. in the First Column, and against 2 s. and o-  
 ver 15 Foot, you shall find 1 s. 1 d. 1.33 q. —  
 Also, against 6 d. and over 15, you shall find  
 3 d. 3.32 q. which added together make 1 s. 4 d.  
 2.65 q. that is 1 s. 4 d. and almost 3 q. the price  
 of 15 Solid Foot of any Solid Tard Work.

*Example 5.*

*At 11 s. 4 d. 2 q. the Tard, What comes 19 Foot to ?*

	<i>l. s. d. q. p.</i>
18 Foot at 10 s. the Yard, comes to	0 6 8 0.00
18 Foot at 1 s. comes to	0 0 8 0.00
18 Foot at 4 d. comes to	0 0 2 2.66
18 Foot at 2 q. comes to	0 0 0 1.33
1 Foot at 10 s. comes to a third part of 3 Foot, viz.	0 0 4 1.80
1 Foot at 1 s. comes to a third part of 3 Foot, viz.	0 0 1 1.80
1 Foot at 4 d. comes to a third part of 3 Foot, viz.	0 0 0 0.59
1 Foot at 2 q. comes to a third part of 3 Foot, viz.	0 0 0 0.07

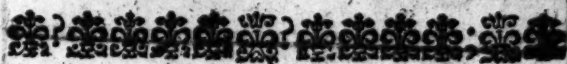
The Price of 19 Foot at 11 s. 4 d. 2 q. the Yard. 0 8 1 0.25

Examp<sup>le</sup> 4.

at 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86. 87. 88. 89. 90. 91. 92. 93. 94. 95. 96. 97. 98. 99. 100. 101. 102. 103. 104. 105. 106. 107. 108. 109. 110. 111. 112. 113. 114. 115. 116. 117. 118. 119. 120. 121. 122. 123. 124. 125. 126. 127. 128. 129. 130. 131. 132. 133. 134. 135. 136. 137. 138. 139. 140. 141. 142. 143. 144. 145. 146. 147. 148. 149. 150. 151. 152. 153. 154. 155. 156. 157. 158. 159. 160. 161. 162. 163. 164. 165. 166. 167. 168. 169. 170. 171. 172. 173. 174. 175. 176. 177. 178. 179. 180. 181. 182. 183. 184. 185. 186. 187. 188. 189. 190. 191. 192. 193. 194. 195. 196. 197. 198. 199. 200. 201. 202. 203. 204. 205. 206. 207. 208. 209. 210. 211. 212. 213. 214. 215. 216. 217. 218. 219. 220. 221. 222. 223. 224. 225. 226. 227. 228. 229. 230. 231. 232. 233. 234. 235. 236. 237. 238. 239. 240. 241. 242. 243. 244. 245. 246. 247. 248. 249. 250. 251. 252. 253. 254. 255. 256. 257. 258. 259. 260. 261. 262. 263. 264. 265. 266. 267. 268. 269. 270. 271. 272. 273. 274. 275. 276. 277. 278. 279. 280. 281. 282. 283. 284. 285. 286. 287. 288. 289. 290. 291. 292. 293. 294. 295. 296. 297. 298. 299. 300. 301. 302. 303. 304. 305. 306. 307. 308. 309. 310. 311. 312. 313. 314. 315. 316. 317. 318. 319. 320. 321. 322. 323. 324. 325. 326. 327. 328. 329. 330. 331. 332. 333. 334. 335. 336. 337. 338. 339. 340. 341. 342. 343. 344. 345. 346. 347. 348. 349. 350. 351. 352. 353. 354. 355. 356. 357. 358. 359. 360. 361. 362. 363. 364. 365. 366. 367. 368. 369. 370. 371. 372. 373. 374. 375. 376. 377. 378. 379. 380. 381. 382. 383. 384. 385. 386. 387. 388. 389. 390. 391. 392. 393. 394. 395. 396. 397. 398. 399. 400. 401. 402. 403. 404. 405. 406. 407. 408. 409. 410. 411. 412. 413. 414. 415. 416. 417. 418. 419. 420. 421. 422. 423. 424. 425. 426. 427. 428. 429. 430. 431. 432. 433. 434. 435. 436. 437. 438. 439. 440. 441. 442. 443. 444. 445. 446. 447. 448. 449. 450. 451. 452. 453. 454. 455. 456. 457. 458. 459. 460. 461. 462. 463. 464. 465. 466. 467. 468. 469. 470. 471. 472. 473. 474. 475. 476. 477. 478. 479. 480. 481. 482. 483. 484. 485. 486. 487. 488. 489. 490. 491. 492. 493. 494. 495. 496. 497. 498. 499. 500. 501. 502. 503. 504. 505. 506. 507. 508. 509. 510. 511. 512. 513. 514. 515. 516. 517. 518. 519. 520. 521. 522. 523. 524. 525. 526. 527. 528. 529. 530. 531. 532. 533. 534. 535. 536. 537. 538. 539. 540. 541. 542. 543. 544. 545. 546. 547. 548. 549. 550. 551. 552. 553. 554. 555. 556. 557. 558. 559. 560. 561. 562. 563. 564. 565. 566. 567. 568. 569. 570. 571. 572. 573. 574. 575. 576. 577. 578. 579. 580. 581. 582. 583. 584. 585. 586. 587. 588. 589. 590. 591. 592. 593. 594. 595. 596. 597. 598. 599. 600. 601. 602. 603. 604. 605. 606. 607. 608. 609. 610. 611. 612. 613. 614. 615. 616. 617. 618. 619. 620. 621. 622. 623. 624. 625. 626. 627. 628. 629. 630. 631. 632. 633. 634. 635. 636. 637. 638. 639. 640. 641. 642. 643. 644. 645. 646. 647. 648. 649. 650. 651. 652. 653. 654. 655. 656. 657. 658. 659. 660. 661. 662. 663. 664. 665. 666. 667. 668. 669. 670. 671. 672. 673. 674. 675. 676. 677. 678. 679. 680. 681. 682. 683. 684. 685. 686. 687. 688. 689. 690. 691. 692. 693. 694. 695. 696. 697. 698. 699. 700. 701. 702. 703. 704. 705. 706. 707. 708. 709. 710. 711. 712. 713. 714. 715. 716. 717. 718. 719. 720. 721. 722. 723. 724. 725. 726. 727. 728. 729. 730. 731. 732. 733. 734. 735. 736. 737. 738. 739. 740. 741. 742. 743. 744. 745. 746. 747. 748. 749. 750. 751. 752. 753. 754. 755. 756. 757. 758. 759. 760. 761. 762. 763. 764. 765. 766. 767. 768. 769. 770. 771. 772. 773. 774. 775. 776. 777. 778. 779. 780. 781. 782. 783. 784. 785. 786. 787. 788. 789. 790. 791. 792. 793. 794. 795. 796. 797. 798. 799. 800. 801. 802. 803. 804. 805. 806. 807. 808. 809. 810. 811. 812. 813. 814. 815. 816. 817. 818. 819. 820. 821. 822. 823. 824. 825. 826. 827. 828. 829. 830. 831. 832. 833. 834. 835. 836. 837. 838. 839. 840. 841. 842. 843. 844. 845. 846. 847. 848. 849. 850. 851.

7. विचार :-

*[The page contains faint, illegible markings and bleed-through from the reverse side.]*



A  
**T A B L E**

Shewing the True

**S Q U A R E**

Of any Unequal-sided Piece of  
Stone or Timber.





## The breadth of the Piece in Inches.

The Depth and Thickness of the Piece in Inches.

	5	6	7	8	9	10
	In.Pr.	In.Pr.	In.Pr.	In.Pr.	In.Pr.	In.Pr.
5	5 0	5 2	5 3	6 1	6 3	7 0
6	5 2	6 0	6 2	3	7 1	3
7	5 3	2	7 0	7 2	3	8 1
8	6 1	3	2	8 0	8 2	3
9	6 3	7 1	3	2	9 0	9 2
10	7 0	3	8 1	3	2	10 0
11	7 1	8 0	3	9 1	3	2
12	7 2	2	0 0	3	10 1	3
13	8 0	3	1	10 0	3	11 1
14	8 1	9 0	3	2	11 1	3
15	8 2	1	10 0	3	3	12 1
16	8 3	2	2	11 1	12 0	3
17	9 1	10 0	3	2	1	13 0
18	9 2	1	11 1	12 0	3	1
19	9 3	3	2	1	13 0	3
20	10 0	11 0	3	2	1	14 0
21	10 1	1	12 0	3	3	2
22	10 2	2	1	13 0	14 0	3
23	10 3	3	3	2	2	15 1
24	11 0	12 0	13 0	14 0	3	2
25	11 1	1	1	1	15 0	3
26	11 2	2	2	2	1	16 1
27	11 3	3	3	3	2	2
28	12 0	13 0	14 0	15 0	3	3
29	0	1	1	1	16 0	17 0
30	1	2	2	2	2	2
31	2	3	3	3	3	3
32	3	14 0	15 0	16 0	17 0	18 0
33	13 0	1	1	1	1	1
34	0	1	2	2	2	2
35	1	2	3	3	3	3
36	13 2	14 3	16 0	17 0	18 0	19 0

The Depth or Thickness of the Piece in Inches.

## The breadth of the Piece in Inches.

	11	12	13	14	15	16
	In. Pr.	In. Pr.	In. Pr.	In. Pr.	In. Pr.	In. Pr.
5	7 1	7 2	8 0	8 1	8 2	8 3
6	8 0	8 1	8 2	9 0	9 1	9 2
7	3	9 6	9 2	3	10 0	10 2
8	9 1	3	10 0	10 2	3	11 1
9	2	10 1	3	11 1	11 2	12 0
10	10 2	3	11 1	3	12 1	3
11	11 0	11 2	3	12 1	3	13 1
12	2	12 0	12 2	3	13 1	3
13	3	2	13 0	13 2	3	14 1
14	12 1	3	2	14 0	14 2	3
15	3	13 1	14 0	2	15 0	15 2
16	13 1	3	1	3	2	16 0
17	2	14 1	3	15 1	3	2
18	14 0	2	15 1	3	16 1	3
19	1	15 0	2	16 1	3	17 1
20	3	2	16 0	3	17 1	3
21	15 0	3	2	17 0	3	18 1
22	2	16 1	3	2	18 0	3
23	16 0	2	17 1	3	2	19 0
24	1	3	2	18 1	3	2
25	2	17 1	18 0	2	19 1	20 0
26	17 0	3	1	19 0	3	1
27	1	18 0	3	1	20 0	3
28	2	1	19 0	3	2	21 0
29	18 0	3	1	20 0	3	2
30	1	19 0	2	1	21 0	3
31	2	1	20 0	3	2	22 1
32	3	2	1	21 0	3	2
33	19 0	20 0	3	2	22 1	23 0
34	1	1	21 0	3	2	1
35	2	2	1	22 1	23 0	3
36	20 0	20 3	21 2	22 2	23 1	24 0

## The breadth of the Piece in Inches.

	17	18	19	20	21	22
	In. Pt.	In. Pt.	In. Pt.	In. Pt.	In. Pt.	In. Pt.
5	9 1	9 2	9 3	10 0	10 1	10 2
6	10 0	10 1	10 3	11 0	11 1	11 2
7	10 3	11 1	11 2	12 0	12 1	12 2
8	11 2	12 0	12 1	12 2	13 0	13 1
9	12 1	12 3	13 0	13 1	13 3	14 0
10	13 0	13 1	3	14 0	14 2	3
11	2	14 0	14 1	3	15 0	15 2
12	14 1	2	15 0	15 2	3	16 1
13	3	15 1	2	16 0	16 2	3
14	15 1	3	16 1	3	17 0	17 2
15	3	16 1	3	17 1	3	18 0
16	16 1	3	17 1	3	18 1	3
17	17 0	17 2	3	18 1	3	19 1
18	2	18 0	18 2	3	19 1	3
19	3	2	19 0	19 2	3	20 1
20	18 1	3	2	20 1	20 2	3
21	3	19 1	3	2	21 0	21 2
22	19 1	3	20 1	3	2	22 0
23	3	20 1	3	21 1	3	2
24	20 0	3	21 1	3	22 1	3
25	2	21 0	3	22 1	3	23 1
26	21 0	2	22 0	3	23 1	3
27	1	22 0	2	23 1	3	24 1
28	3	1	23 0	3	24 1	3
29	23 0	3	1	24 0	3	25 1
30	2	23 1	3	2	25 0	2
31	3	2	24 1	3	2	26 0
32	23 1	24 0	2	25 1	3	2
33	2	1	25 0	2	26 1	3
34	24 0	3	1	26 0	2	27 1
35	2	25 0	3	1	27 0	3
36	3	1	26 0	26 3	27 2	28 0

The Depth or Thickness of the Piece in Inches.

## The breadth of the Piece in Inches.

22 In.Pt.	—	23	24	25	26	27	28	29
		In.Pt.	In.Pt.	In.Pt.	In.Pt.	In.Pt.	In.Pt.	In.Pt.
10 2	5	10 3	11 0	11 1	11 2	11 3	12 0	12 0
11 2	6	11 3	12 0	12 1	12 2	12 3	13 0	13 1
12 1	7	12 3	13 0	13 1	13 2	13 3	14 0	14 1
13 0	8	13 2	14 0	14 1	14 2	14 3	15 0	15 1
14 0	9	14 2	3	15 0	15 1	15 3	3	16 0
3	10	15 1	15 2	3	16 1	16 2	16 3	17 0
15 2	11	16 0	16 1	16 2	17 0	17 1	17 2	18 0
16 1	12	2	3	17 1	3	18 0	18 1	3
3	13	17 1	17 2	18 0	18 1	3	19 0	19 1
17 2	14	3	18 1	2	19 0	19 1	3	20 0
18 0	15	18 2	3	19 1	3	20 0	20 2	3
3	16	19 0	19 2	20 0	20 1	3	21 0	21 2
19 1	17	3	20 0	2	21 0	21 1	3	22 0
3	18	20 1	3	21 0	2	22 0	22 1	3
20 1	19	3	21 1	3	22 0	2	23 2	23 1
3	20	21 1	3	22 1	3	23 1	2	24 0
21 2	21	3	22 1	3	23 1	3	24 1	2
22 0	22	22 2	3	23 1	3	24 1	3	25 1
3	23	23 0	23 1	3	24 1	3	25 2	26 0
24 1	24	2	24 0	24 2	25 0	25 1	3	1
3	25	24 0	2	25 0	2	3	26 1	3
25 1	26	2	3	2	26 0	26 2	3	27 1
3	27	25 0	25 1	3	2	27 0	27 2	3
27 1	28	2	3	26 1	3	2	28 0	28 2
2	29	26 0	26 1	3	27 1	3	2	29 0
3	30	2	3	27 1	3	28 1	3	1
26 0	31	3	27 1	3	28 1	3	29 1	3
2	32	27 1	3	28 1	3	92 1	3	30 1
3	33	3	28 0	2	29 1	3	30 1	3
27 1	34	28 1	2	29 0	2	30 1	3	31 1
3	35	2	3	2	30 0	3	31 1	3
28 0	36	28 3	29 1	30 0	30 2	31 0	3	32 1

## The breadth of the Piece in Inches.

	30	31	32	33	34	35	36
	In. Pt.	In. Pt.	In. Pt.	In. Pt.	In. Pt.	In. Pt.	In. Pt.
5	12 1	12 2	12 3	13 0	13 1	13 1	13 2
6	13 2	13 3	14 0	14 1	14 1	14 2	14 3
7	14 2	14 3	15 0	15 1	15 2	15 3	16 0
8	15 2	15 3	16 0	16 1	16 2	16 3	17 0
9	16 2	16 3	17 0	17 1	17 2	17 3	18 0
10	17 2	17 3	18 0	18 1	18 2	18 3	19 0
11	18 1	18 2	3	19 0	19 1	19 2	20 0
12	19 0	19 1	19 2	20 0	20 1	20 2	3
13	2	20 0	20 1	3	21 0	21 1	21 2
14	20 1	3	21 0	21 2	3	22 1	22 2
15	21 0	21 2	3	22 1	22 2	23 0	23 1
16	3	22 1	22 2	23 0	23 1	3	24 0
17	22 2	3	23 1	2	24 0	24 2	3
18	23 1	23 2	24 0	24 1	3	25 0	25 1
19	3	24 1	2	25 0	25 1	3	26 0
20	24 2	3	25 1	2	26 0	26 1	3
21	25 0	25 2	3	26 1	2	27 0	27 2
22	2	26 0	26 2	3	27 0	3	28 0
23	26 1	3	27 1	27 2	3	28 1	3
24	3	27 1	3	28 0	28 1	3	29 1
25	27 1	3	28 1	2	29 0	29 2	30 0
26	3	28 1	3	29 1	2	30 0	2
27	28 1	3	29 1	3	30 1	3	31 0
28	3	29 1	3	30 1	3	31 1	3
29	29 1	3	30 1	3	31 1	3	32 1
30	30 0	30 2	31 0	31 2	3	32 1	3
31	2	31 0	2	3	32 1	3	33 1
32	31 0	2	32 1	32 2	33 0	33 1	3
33	2	3	2	33 0	2	3	34 1
34	3	32 1	33 0	2	34 0	34 2	3
35	32 1	3	2	3	2	35 0	35 2
36	32 3	33 1	33 3	34 1	34 3	2	36 0

*The Use of this TABLE.*

**T**He Table needeth no Explanation, for the Titles to the Columns are light sufficient, but its Use is not so easie, but it is also as necessary, for it is to reduce Squared Timber or Stone of unequal Sides to a true Square.

To effect this, the usual way with Workmen is to add the two unequal sides together, and take the half thereof for the true Square, but that way is false: and although the Error be not great, when the Difference of the sides are not much, yet if the Difference be great, the Error is not to be suspended with: The Use of the Table will best appear by Example.

*Example 1.*

*If a Piece of Squared Timber at the end be 20 Inches broad and 11 Inches deep, what is the side of a Square equal to those two unequal sides.*

Look for 20 Inches (the breadth) at the head of the Table, and 11 Inches (the depth) in the first Column towards the left hand; and in that line against 11 and under 20, you shall find 14, 3 which is 14 Inches and 3 Quarters of an Inch, and that is the true square of this unequal sided piece of Stone or Timber.

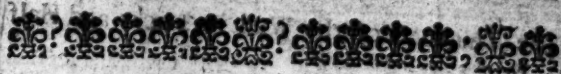


## Example 2.

If a Piece of Squared Stone or Timber be 9 Inches deep, and 27 Inches broad, what is the true Square.

Look for 27 Inches (the breadth) at the head of the Table, and for 9 Inches (the depth) in the side of the Table, and in the Angle of meeting (that is against 9 in the first Column) and under 27 in the head, you shall find 15.2 which shews, that 15 Inches and a half (or 2 Quarters) is the side of a true Square equal in Area with the end of the Piece. But if this side of the Square had been found by the common way used by Artificers by adding both sides together, and taking the half for the true Square, the side of the Square so found would be 18 Inches, whereas before you found it to be but 15 Inches 2 Quarters, differing no less then 2 Inches and a half from the truth.

	Inches	Inches		In. Pts.
And so if a Piece be	16	10	the true Square will be	12 . 3
	9	13		10 . 3
	21 and	18		19 . 1
	19	11		14 . 1
	24	31		27 . 1



A

# TABLE

Reducing

## BRICK-WORK

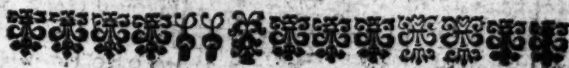
Of any Thickness,

To the Customary Thickness

OF

One Brick and Half,

Ready cast up.



S 4

# The Thickness of the Wall in Bricks and Half Bricks.

|  $\frac{1}{2}$  a Brick | 1 Brick |  $1\frac{1}{2}$  Brick | 2 Bricks

## The Wall reduced to one Brick and half.

	R. Q. F.	R. Q. F.	R. Q. F.	R. Q. F.
1 Quar.	0 0 32	0 0 45	0 1 0	0 1 22
2 Quar.	0 0 45	0 1 22	0 2 0	0 2 45
3 Quar.	0 1 0	0 2 0	0 3 0	1 0 0
1	0 1 22	0 2 45	1 0 0	1 0 22
2	0 2 45	1 1 22	2 0 0	2 2 45
3	1 0 0	2 0 0	3 0 0	4 0 0
4	1 1 22	2 2 45	4 0 0	5 1 22
5	1 2 45	3 1 22	5 0 0	6 2 45
6	2 0 0	4 0 0	6 0 0	8 0 0
7	2 1 22	4 2 45	7 0 0	9 1 22
8	2 2 45	5 1 22	8 0 0	10 2 45
9	3 0 0	6 0 0	9 0 0	12 0 0
10	3 1 22	6 2 45	10 0 0	13 1 22
11	3 2 45	7 1 22	11 0 0	14 2 45
12	4 0 0	8 0 0	12 0 0	16 0 0
13	4 1 22	8 2 45	13 0 0	17 1 22
14	4 2 45	9 1 22	14 0 0	18 2 45
15	5 0 0	10 0 0	15 0 0	20 0 0
16	5 1 22	10 2 45	16 0 0	21 1 22
17	5 2 45	11 1 22	17 0 0	22 2 45
18	6 0 0	12 0 0	18 0 0	24 0 0
19	6 1 22	12 2 45	19 0 0	25 1 22
20	6 2 45	13 1 22	20 0 0	27 2 45
21	7 0 0	14 0 0	21 0 0	28 0 0

The Number of Rods contained upon the Surfaces of the Wall.

Half The Thickness of the Walls in Bricks and Half Bricks.

| 2  $\frac{1}{2}$  Bricks | 3 Bricks | 3  $\frac{1}{2}$  Bricks | 4 Bricks

The Wall reduced to one Brick and Half,

The Number of Rods contained upon the Superficies of the Wall.	Quar.	R. Q. F.			R. Q. F.			R. Q. F.			R. Q. F.		
		R.	Q.	F.	R.	Q.	F.	R.	Q.	F.	R.	Q.	F.
		0	1	45	0	2	0	0	2	22	0	2	45
		0	3	22	1	0	0	1	0	45	1	1	22
1	Quar.	1	1	0	1	2	0	1	3	0	2	0	0
2	Quar.	1	2	45	2	0	0	2	1	22	2	2	45
3	Quar.	3	1	22	4	0	0	4	2	45	5	1	22
4		5	0	0	6	0	0	7	0	0	8	0	0
5		6	2	45	8	0	0	9	1	22	10	2	45
6		8	1	22	10	0	0	11	2	45	12	1	22
7		10	0	0	11	0	0	14	0	0	16	0	0
8		11	2	45	14	0	0	16	1	22	18	2	45
9		13	1	22	16	0	0	18	2	45	21	1	22
10		15	0	0	18	0	0	21	0	0	24	0	0
11		16	2	45	20	0	0	23	1	22	26	0	45
12		18	1	22	22	0	0	25	2	45	29	1	22
13		20	0	0	24	0	0	28	0	0	32	0	0
14		21	2	45	26	0	0	30	1	22	34	2	45
15		23	1	22	28	0	0	32	2	45	37	1	22
16		25	0	0	30	0	0	35	0	0	40	0	0
17		26	2	45	32	0	0	37	1	22	42	2	45
18		28	1	22	34	0	0	39	2	45	45	1	22
19		30	0	0	36	0	0	42	0	0	48	0	0
20		31	2	45	38	0	0	44	1	22	50	2	45
21		33	1	22	40	0	0	46	2	45	53	1	22
		35	0	0	42	0	0	49	0	0	56	0	0

# The Thickness of the Wall in Bricks and Half Bricks.

1 4  $\frac{1}{2}$  Bricks | 5 Bricks | 5  $\frac{1}{2}$  Bricks

The Wall reduced to one Brick and half,

The Number of Rods contained upon the Superficies of the Wall.	Quar.	R. Q. F.			R. Q. F.			R. Q. F.		
		0	3	0	0	3	22	0	34	5
		1	2	0	1	2	45	1	3	22
		2	1	0	2	2	0	2	3	0
1	Quar.	3	0	0	3	1	22	3	2	45
2	Quar.	6	0	0	6	2	45	7	1	22
3	Quar.	9	0	0	10	0	0	11	0	0
4		12	0	0	13	1	22	14	2	45
5		15	0	0	16	2	45	18	1	22
6		18	0	0	20	0	0	22	0	0
7		21	0	0	23	1	22	25	2	45
8		24	0	0	26	2	45	29	1	22
9		27	0	0	30	0	0	33	0	0
10		30	0	0	33	1	22	36	2	45
11		33	0	0	36	2	45	40	1	22
12		36	0	0	40	0	0	44	0	0
13		39	0	0	43	1	22	47	2	45
14		42	0	0	46	2	45	51	1	22
15		45	0	0	50	0	0	55	0	0
16		48	0	0	53	1	22	58	2	45
17		51	0	0	56	2	45	62	1	22
18		54	0	0	60	0	0	66	0	0
19		57	0	0	63	1	22	69	2	45
20		60	0	0	66	2	45	73	1	22
21		63	0	0	70	0	0	77	0	0

*The Table Explained.*

**A**T the head of the Table you have the thickness of any Wall in Bricks and Half-Bricks for any thickness from half a Brick thick, to Six Bricks thick, under several Columns, and in the first Column towards the left hand, you may find the number of Rods that any Wall contains upon the Superficies thereof, from  $\frac{1}{4}$  Quarter of a Rod to 21 Rods, and in the several Columns you have the Rods in the first Column reduced to the customary thickness of One Brick and half, but this will best appear by Examples, wherefore I will now shew you.

*The Use of the TABLE.**Example 1.*

**I**F a Wall measured upon the Superficies thereof, shall be found to contain 9 Rod, and the Wall be 2 Bricks and half thick, how many Rods doth the same Wall contain, it being reduced to the customary thickness of one Brick and half?

Look for 9 Rods ( the measure of the Wall upon the flat ) in the first Column towards the left hand, and find  $2\frac{1}{2}$  Bricks (the thickness of the Wall) at the head of the Table, and against 9 in the first Column, and under  $2\frac{1}{2}$  Bricks in the head, you shall find 15 Rod, and so much doth the Wall contain, it being reduced to Brick and half thick.

*And*



*And so by the Table you may find, That if a Wall upon the Flat do contain 13 Rod, if that Wall be*

Thickness		R.	Q.	F.	
$\frac{1}{2}$ a	} Brick thick, it will contain, being reduced to One Brick and half,	4	1	22	} Contents reduced.
1		8	2	45	
$1\frac{1}{2}$		13	0	0	
2		17	1	22	
$2\frac{1}{2}$		21	2	45	
3		26	0	0	
$3\frac{1}{2}$		30	1	22	
4		34	2	45	
$4\frac{1}{2}$		39	0	0	
5		43	1	22	
$5\frac{1}{2}$		47	2	45	

*Example 2.*

*If a Wall be 4 Bricks thick, and contains 17 Rod upon the Flat, how much doth it contain being reduced?*

Look 17 in the first Column, and against it under 4 Bricks you shall find 45 Rod, 1 Quarter, and 22 Foot, and so much doth that Wall contain, being reduced to one Brick and half thick. And so if a Wall,

			R.	Q.	F.
Contain	12	Rod upon	28	0	0
	17	the Flat,	22	2	45
	7	and be	23	1	22
	$3\frac{1}{2}$	Thick, it will			
	2	contain being			
	5	reduced.			

*Example*

## Example 3.

If a Wall upon the Flat do contain 13 Rod and 3 Quarters, and be  $4\frac{1}{2}$  Bricks thick, how many Rod shall that Wall contain, when it is reduced to a Brick and half?

R. Q. F.

13 Rod upon the Flat and $4\frac{1}{2}$ Bricks thick is	39	0	0
3 Quarters of a Rod, and $4\frac{1}{2}$ Bricks thick is	2	1	0
13 $\frac{1}{4}$ Rod upon the Flat, reduced is	41	1	0

## Example 4.

If a Wall upon the Flat do contain 8 Rods and be  $9\frac{1}{2}$  Bricks thick, how much doth that Wall contain, being reduced.

In the Table (at the head thereof) you cannot find  $9\frac{1}{2}$  Bricks, but you may find  $5\frac{1}{2}$  thick, and 4 Bricks thick, which together make  $9\frac{1}{2}$  thick, then by the Table,

R. Q. F.

8 Rod at $5\frac{1}{2}$ Bricks thick, reduced is	29	1	2
8 Rod at 4 Bricks, reduced is	21	1	2
8 Rod at $9\frac{1}{2}$ Bricks, reduced is	50	2	4

## Example 5.

If a Wall upon the Flat do contain 12 Rod and a half, and be 7 Bricks thick, how much doth that Wall contain, it being reduced to Brick and half thick.

In the Table you cannot find 7 Bricks thick, but you may find 4 Bricks and 3, or  $2\frac{1}{2}$  and  $4\frac{1}{2}$ , either of which make 7 Bricks; then,

12 Rods

	R.	Q.	F.
12 Rods at 4 Bricks reduced is	32	0	0
12 Rods at 3 Bricks reduced is	24	0	0
Half a Rod at 4 Bricks reduced is	1	1	22
Half a Rod at 3 Bricks reduced is	1	0	0
12 $\frac{1}{2}$ Rods at 7 Bricks reduced is	58	1	22

And so let these Examples serve to shew the Use  
of this Table.

*The End of the Third Book.*

Q. F.  
O O  
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he Use

O F

# MENSURATION S:

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## THE FOURTH BOOK.

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Shewing how to measure all manner of *Superficies*, as *Board, Glass, Pavement, Wainscot, &c.* And *Solids*, as *Stone, Timber, &c.* Regular or Irregular.

A L S O,

How to measure the *Works* of the several *Artificers* belonging to *Building*, as the *Carpenters, Bricklayers, Masons, Joyners, Painters, Plasterers,* and *Paviors Works.*

A N D

To take the true *Draught* or *Plat* of any *Ruinous Foundation, House or Houses standing*; or other *Peece of ground* how irregular soever it be; and to cast up the *quantity* or *content* thereof in *Feet*, or in *Acres, Roods and Perches.*

*Arithmetically* performed, not only by *Vulgar Numbers* and *Fractions* (by *Cross Multiplication* and *Division*) but by *Decimal Numbers* also, which of all others (in these kinds of *Mensurations*) is the most exact and easiest to be performed by the Pen.

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By *William Leybourn.*

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London, Printed in the Year, 1685.

# MEMORIAL

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# OF THE MEASURING OF

## Superficies and Solids.

*Superficies*, such as *Board, Pavement, Wainscot, Glass, Painting, &c.* Or *Solids*, as *Stone, Timber, &c.* may be Measured several ways, *viz.* *Arithmetically, Instrumentally*, or by *Tables* ready Calculated for that purpose; of which last way I have sufficiently treated of in this book already. The *Instrumental* ways are many, and of them in this place I shall say nothing, having done that elsewhere; and the rather I omit them, because the best of them are very deficient in their performance. I shall therefore in this place shew how all sorts of *Mensuration* of *Superficies* or *Solids*, *Regular* or *Irregular*, may be performed *Arithmetically*.

There



There are two ways of measuring *Arithmetically*, the one by *Vulgar Numbers and Fractions*, the other by *Artificial or Decimal Numbers*.

The *Vulgar way* is by *Cross Multiplication* (as it is called) namely, by multiplying of *Feet by Feet*, which produce *Feet*; and *Feet by Inches*, which produce *Feet and Inches*: And lastly, *Inches by Inches*, which produce *Inches and twelfth parts of Inches*.

The *Decimal way* is by multiplying *Feet and Decimal parts of a Foot*, by *Feet and Decimal parts of a Foot*, which produce *Feet and hundred parts of a Foot*. And this way (of all other) is the most *easy, exact, and readiest* to be performed: there being no occasion to make use of *Division*, as in the other there is.

But for as much as most *Artificers and Measurers* do use the *Vulgar way by Cross Multiplication*, I shall here shew you how both ways may be performed; leaving every one to use that way which *best liketh him*.

But before I come to *Particular Examples in Mensuration*, I will in the following Chapter shew how to *Multiply Feet and Inches by Feet and Inches by Cross Multiplication*; and also by *Decimal Numbers*, using the same *Example* in both the *Ways or Operations*.

CHAP.

## C H A P. I.

*How to Multiply Feet and Inches by Feet and Inches.*

## I. By Cross Multiplication.

*Example 1* Let it be required to Multiply 8 Foot 6 Inches by 13 Foot 9 Inches.

Set the Numbers to be Multiplied orderly one under another, as Feet under Feet, and Inches under Inches, making a Cross between the Feet and the Inches, and under them draw a line, and in the Margin is done. Then,

Feet      Inches

$$\begin{array}{r}
 \text{Feet} \quad \text{Inches} \\
 13 \quad 9 \\
 \times 8 \quad 6 \\
 \hline
 104 \quad 0 \\
 72 \quad 0 \\
 \hline
 116 \quad 54
 \end{array}$$

First, Multiply 13 foot by 8 foot, and they produce 104 foot, which set under feet.

Secondly, Multiply 13 foot by 6 inches (as the Cross directs) and that makes 78 inches; which is 6 foot and 6 inches; which set under the feet and Inches.

Thirdly, Multiply 8 foot by 9 inches (as the Cross directs) and that produces 72 inches, which is 6 foot; which set under the feet.

Fourthly, Multiply 9 inches by 6 inches, and that produces 54 twelfths of inches; and that is

T 2

4 inches

4 inches and  $\frac{1}{2}$  (or one half) of an inch, which  
 set under inches.

*Lastly*, Draw a line under them, and add all together, and you shall find the Sum to be 116 foot, 10 inches and an half.

**Example 2.** Let it be required to Multiply 326 foot 3 inches, by 35 foot 6 inches.

Set the Numbers in order, as before, *Feet* under *Feet*, and *Inches* under *Inches*; making a *Cross* between, and drawing a line under them, as is done in the *Margine*. Then.

Feet      Inches      *First*, Multiply 326  
 326      3      foot by 35 foot, and  
 35      6      they produce 11410  
 —————      feet, which set under  
 11410      feet.

Secondly, Multiply 326 foot by 6 inches, and they produce 1956 inches, which is 163 foot, which set under feet.

Thirdly, Multiply 35 foot by 3 Inches, and they produce 105 Inches, which is 8 foot and 9 inches; which set under feet and inches.

*Fourthly*, Multiply 6 inches by 3 inches, and they produce 18 twelfths of inches, which is one inch and a half, which set under inches.

Lastly, Draw a line, and add all together, you shall find the Sum to be 11581 foot, and 10 1/2 inches.

Two Examples more for Practice ready wrought:

Feet Inches

2 6 X 10  
7 4

1 8 2 0  
8 8  
5 10

1 9 6 2 4  
9 12

Feet Inches

3 4 X 7  
1 2 9

4 0 8 0  
7 0  
2 5 0 6 0 0

4 4 0 11 12

II. By Decimal Numbers.

I shall not in this place shew how to reduce Feet and Inches into Decimal Parts; but shall here insert a Table of the Decimal Parts of a Foot to every quarter of an Inch: Which Table ought to be perfectly learned by heart, as the Common Table of Multiplication, and that may be easily done; for allowing .02 for a quarter of an Inch, it is all that you have to do.

1	0.02	0.04	0.06	0.08	0.10	0.12	0.14	0.16	0.18	0.20	0.22	0.24	0.26	0.28	0.30	0.32	0.34	0.36	0.38	0.40	0.42	0.44	0.46	0.48	0.50	0.52	0.54	0.56	0.58	0.60	0.62	0.64	0.66	0.68	0.70	0.72	0.74	0.76	0.78	0.80	0.82	0.84	0.86	0.88	0.90	0.92	0.94	0.96	0.98	1.00
2	0.04	0.08	0.12	0.16	0.20	0.24	0.28	0.32	0.36	0.40	0.44	0.48	0.52	0.56	0.60	0.64	0.68	0.72	0.76	0.80	0.84	0.88	0.92	0.96	1.00	1.04	1.08	1.12	1.16	1.20	1.24	1.28	1.32	1.36	1.40	1.44	1.48	1.52	1.56	1.60	1.64	1.68	1.72	1.76	1.80	1.84	1.88	1.92	1.96	2.00
3	0.06	0.12	0.18	0.24	0.30	0.36	0.42	0.48	0.54	0.60	0.66	0.72	0.78	0.84	0.90	0.96	1.02	1.08	1.14	1.20	1.26	1.32	1.38	1.44	1.50	1.56	1.62	1.68	1.74	1.80	1.86	1.92	1.98	2.04	2.10	2.16	2.22	2.28	2.34	2.40	2.46	2.52	2.58	2.64	2.70	2.76	2.82	2.88	2.94	3.00
4	0.08	0.16	0.24	0.32	0.40	0.48	0.56	0.64	0.72	0.80	0.88	0.96	1.04	1.12	1.20	1.28	1.36	1.44	1.52	1.60	1.68	1.76	1.84	1.92	2.00	2.08	2.16	2.24	2.32	2.40	2.48	2.56	2.64	2.72	2.80	2.88	2.96	3.04	3.12	3.20	3.28	3.36	3.44	3.52	3.60	3.68	3.76	3.84	3.92	4.00
5	0.10	0.20	0.30	0.40	0.50	0.60	0.70	0.80	0.90	1.00	1.10	1.20	1.30	1.40	1.50	1.60	1.70	1.80	1.90	2.00	2.10	2.20	2.30	2.40	2.50	2.60	2.70	2.80	2.90	3.00	3.10	3.20	3.30	3.40	3.50	3.60	3.70	3.80	3.90	4.00	4.10	4.20	4.30	4.40	4.50	4.60	4.70	4.80	4.90	5.00

T. 3

*A Table shewing the Decimal Parts of a Foot, in Inches and Quarters of Inches.*

<i>Inches and Quart.</i>	<i>Decimal Parts</i>	<i>Inches and Quart.</i>	<i>Decimal Parts</i>
0 0	000	6 0	5
1	021	1	521
2	041	2	541
3	062	3	562
1 0	083	7 0	583
1	104	1	604
2	125	2	625
3	145	3	645
2 0	166	8 0	666
1	187	1	687
2	208	2	708
3	229	3	729
3 0	25	9 0	75
1	271	1	771
2	291	2	791
3	312	3	812
4 0	333	10 0	833
1	353	1	853
2	374	2	874
3	395	3	895
5 0	416	11 0	916
1	437	1	937
2	457	2	957
3	478	3	978

How to set down the *Decimal* of any *Number of Inches.*

*Example X.* Let it be required to set down the *Decimal* of 3 *Inches.*

Look in the Table for 3 inches, and right against it you shall find .25, which is the *decimal* of 3 inches, for as 3 inches is one quarter of a foot, so is .25 one quarter of 100.—Also the *Decimal* of 6 inches is .5, for as 6 inches is half a foot, so .5 is half 10, or 50 half 100.—And as 9 inches is 3 quarters of a foot, so .75 the *Decimal* of 9 inches, is 3 quarters of 100. And so by this Table the *Decimal* of any *Number of Inches,*

halves and quarters may be readily set down:  
As thus;

The

Inches  
 The Decimal of  $\left\{ \begin{array}{l} 4 \\ 5\frac{1}{2} \\ 6\frac{1}{4} \\ 9\frac{1}{2} \end{array} \right\}$  is  $\left\{ \begin{array}{l} .333 \\ .457 \\ .562 \\ .771 \end{array} \right\}$  And so of any Number of Inches halves or quarters.

## II. To Multiply Feet and Inches by Feet and Inches Decimally.

I will instance in the four foregoing Examples.

1. Let it be required to Multiply 13 Foot 9 Inches, by 8 Foot 6 Inches, Decimally.

First, Set down your 13 foot, and .75 for your 9 inches, with a Point between the 13 foot and .75 the Decimal part of 9 inches.

$$\begin{array}{r} 13.75 \\ \times 8.5 \\ \hline 6875 \\ 11000 \\ \hline 116875 \end{array}$$

Secondly, Set down your 8 foot, and .5 for your Decimal part of 6 inches, with a Point between; then will your Numbers be 13.75 and 8.5.

Thirdly, Draw a Line under them, as in the Margine, and Multiply 13.75 by 8.5 as if they were two whole Numbers; so shall they produce 116.875.

Now forasmuch as there are three figures which stand on the right hand of the whole feet, namely 75 and 5, you must therefore Cut off the three last figures of your Product 116875 towards the right hand, namely 875, and then the Product will stand thus 116.875; which is 116 foot, and 875 parts of a foot: This .875 being



found in your Table (or the nearest to it, which is 874) against it you shall find 10 inches and a half, exactly agreeing with the former.

2. Let it be required to Multiply 326 foot 3 inches by 35 foot 6 inches, Decimally.

3 2 6 . 2 5      First, Set down 326 foot, and .25 for your Decimal of 3 inches, and 9 7 8 7 5 under it, your 35 foot, and .5 for your Decimal

of 6 inches, and draw a line under them: So will your two Numbers be 326.25 and 35.5. Which,

Secondly, Multiply together, as two whole Numbers, and their Product will be 11581.875, from which the three last figures to the right hand (viz. 875) being separated from the rest, by a point, there will be left 11581 Feet, and 875 Decimal parts of a foot, answerable to 10 inches and an half in the Table.

The two former Examples, for Practice ready wrought by Decimals.

2 6 8 3 3	3 4 5 8 3
7 3 3 3	2 7 5
8 8 4 9 9	1 7 1 2 9 1 8
8 8 4 9 9	2 4 2 0 8
8 8 4 9 9	6 9 1 6 1 6
8 8 4 9 9	3 4 5 8 3
9 6 7 6 6 3 8 9	4 4 0 9 3 3 2 5
Or	Or
196 feet 9 $\frac{1}{2}$ Inches	440 foot 11 $\frac{1}{2}$ inches



## C H A P. II.

*Of the Mensuration of Superficial Figures.*

**S**uperficial Figures are either *Triangles Squares, Long Squares, or Parallelograms, Rhombuses, or Diamond forms, Trapezas, or Irregular Figures* of 4 unequal sides, *Multangulars, or Figures* of many unequal sides, *Regular Polygons, or Figures* whose sides are more than four, and all of them equal. *Circles, and parts of Circles, &c.*

## I. How to Measure Triangles.

Right lined Triangles of what form or denomination soever, consist of three sides, either equal or unequal, and all of them are Measured by either of these

*Two General Rules.*

1. *Half the length of the Base, multiplied by the whole length of the Perpendicular, shall give the Area or Superficial Content.*

Or;

2. *Half the length of the Perpendicular, multiplied by the whole length of the Base, shall also give the Area or Superficial Content.*

*Figure 1.*

In the first Triangle ABC, the Base thereof BC is 16 foot 6 inches (the half whereof is 8 foot 3 inches) and the Perpendicular AD is 6 foot 6 inches.

ches. These multiplyed together do produce 53 foot 7  $\frac{1}{2}$  inches for the *Area* of the Triangle A B C by the first Rule.

Feet Inches

$$\begin{array}{r}
 8 \text{ } 2 \text{ } 5 \\
 6 \text{ } 5 \\
 \hline
 4 \text{ } 8 \text{ } 9 \\
 4 \text{ } 8 \text{ } 9 \\
 \hline
 5 \text{ } 3 \text{ } 7 \text{ } \frac{1}{2}
 \end{array}$$

Fig. II.

In the second Triangle D E G, the *Perpendicular* thereof D E, is 10 foot 4 inches (the half whereof is 5 foot 2 inches) and the *Base* thereof E G is 9 foot 7 inches, these multiplyed together do produce 49 foot 6 inches for the *Area* or *Content* of the Triangle D E G. By the second Rule.

Feet. Inches

$$\begin{array}{r}
 5 \text{ } 1 \text{ } 7 \\
 9 \text{ } 5 \text{ } 8 \\
 \hline
 4 \text{ } 9 \text{ } 6
 \end{array}$$

Feet

$$\begin{array}{r}
 4 \text{ } 9 \text{ } 6
 \end{array}$$

## II. How to Measure a Figure which is perfectly Square.

Fig. III.

Let the Figure HKLM, be a Court-yard, 34 foot 9 inches Square, paved with Free Stone, or a Hall paved with Marble, To find the content thereof, Multiply 34 foot 9 inches by 34 foot 9 inches, and the Product will be 1207 feet 6 $\frac{1}{2}$  inches. And so many foot is contained therein.

Feet	Feet	Inches
34.75	34	<b>X</b> 9
34.75	34	9
17375	136	
24325	102	
13960	1156	
10425	256	
12075625	256	
	1207	6 $\frac{1}{2}$

## III. How to Measure a Parallelogram or Long Square.

Fig. IV.

Let the Figure NOPQ be a Gallery, whose length is 123 foot and 3 inches, and its breadth 34 foot 6 inches: To find the content hereof,

Multi-

Multiply the length by the breadth, and the Product 4252 feet  $1\frac{1}{2}$  inches, will be the content thereof in Feet.

Feet			
1	2	3	3
—	3	4	X 6
4	9	2	
3	6	9	
4	1	8	2
	6	1	6
	8		6
		1	1
4	2	5	2
		1	1

Feet			
1	2	3	2
	3	4	5
6	1	6	2
4	9	3	0
3	6	9	7
4	2	5	2
		1	2

#### IV. To Measure a Rhombus or Figure of a Diamond Form:

Fig. V.

Let the Figure RSTU be such a Figure, draw a Perpendicular Line from R to X, whose length let be 12 foot 5 inches, and one of the longer sides RS or TU, be 37 foot 2 inches: These two Multiplied together shall give the Area or Content thereof.

Feet



Feet	Inches
37	2
12	5
74	
37	
44	1
12	5
2	0
2	0
2	0
46	5

Feet.

3742  
3742  

---

7432  
1486  
7432  
3742  

---

4615272

V. *How to Measure a long Superficies, which is broader at one end than at the other.*

**Fig. VI.**

Let the Figure A B C D be a Superficies, whose length in the middle is 32 foot 6 inches, and its breadth at one end 15 foot 8 inches, and at the other 12 foot 2 inches.

To find the Superficial Content of this Figure, add the breadths at the two ends together, and they make 27 foot 10 inches, the half whereof is 13 foot 11 inches: This multiplied by the length, will be the Area or Content of this Figure.

Feet

Feet      Inches

3 2 6  
1 3 X 11

9 6

3 2

4 1 6

6 6

2 9

4 5 1

3 11

Feet

1 3 9 2

3 2 5

6 9 6 6

2 7 8

4 5 2 6

7 9 2 4 0 0

VI. How to measure a Trapezia, or figure whose four Sides and four Angles are all unequal.

Fig. VII.

All such Figures as this E F G H, must (before they can be measured) be reduced into two Triangles, by drawing the longest diameter (or Diagonal line) from two opposite Angles, as the line G F, which reduceth the Trapezia into the two Triangles E G F, and H G F; and by letting fall two Perpendiculars from the Angles E and H, upon the Diagonal G F, the Figure may be measured by the first and second hereof.

But for the readier Measuring of Trapezia's, when they are reduced into two Triangles, this is the

General Rule.

Half the length of the Diagonal G F, Multiplied by the length of both the Perpendiculars E K  
and

and I H added together, shall give the Area or Content of the Trapezia.

Or

The whole length of the Diagonal G F, multiplied by half the length of the two Perpendiculars E K and L H added together, shall give the Area or Content of the Trapezia. Also,

In the Trapezia E F G H, let the Diagonal G F be 50 foot 6 inches, the Perpendicular E K 10 foot 4 inches, and the other H L 20 foot 6 inches; The half of 50 foot 6 inches is 25 foot 3 inches. Also 10 foot 4 inches, and 20 foot 6 inches added together, make 30 foot 10 inches. These multiplied together, produce 778 foot 6  $\frac{1}{2}$  inches, for the Area of the Trapezia.

Feet. Inches

25  $\times$  30

750 0

20 10

7 6

212

778 6  $\frac{1}{2}$

Feet

30.833

25.25

154165

61666

154165

61666

778.53325

VII. How

**VII. How to Measure any Irregular Figure of many unequal Sides and Angles.**

**Fig. VII.**

Let it be required to Measure this Irregular Plot of Figure **M N O P Q R**. Before this or any the like *Irregular Figures* can be measured, they must be reduced into several *Triangles*, by drawing of *Diagonal Lines* from *Angle to Angle*, and from the *Angles* opposite to those *Diagonal Lines* let fall *Perpendiculars*; then must you measure them as so many particular *Triangles* (or *Trapezias* rather) the Contents of all which being added together, will be the Content of the whole *Figure*. — And thus this *Irregular Figure* **M N O P Q R** is reduced into the four *Triangles*.

	Feet In.		Feet In.
<b>M R N</b> }	<b>MS 25.4</b> }	<b>X</b>	<b>R N</b> }
<b>R N O</b> }	<b>OT 11.6</b> }	and	<b>R N</b> }
<b>R O Q</b> }	<b>RU 21.3</b> }	Base	<b>Q O</b> }
<b>Q O P</b> }	<b>P X 16.1</b> }		<b>Q O</b> }
			<b>46.2</b>
			<b>40.6</b>

Or, rather into the two *Trapezias*

	Feet Inches
<b>M R O N</b> }	<b>whose Dia- gonal</b> }
<b>R O Q P</b> }	<b>R N 46.2</b> }
	<b>Q O 40.6</b> }

	Feet In.	Feet In.
And whose Per-	<b>MS 25.4</b>	<b>OT 11.6</b>
pendiculars are	<b>RU 21.3</b>	<b>P X 16.1</b>

V

All



Triangle QOP

$$\begin{array}{r}
 20 \quad 3 \\
 16 \quad \mathbf{X} \quad 1 \\
 \hline
 320 \quad 0 \\
 4 \quad 0 \\
 2 \quad 8 \\
 \hline
 0 \quad 12 \\
 325 \quad 8 \quad 12
 \end{array}$$

Triangle QOR

$$\begin{array}{r}
 20 \quad 3 \\
 21 \quad \mathbf{X} \quad 3 \\
 \hline
 420 \quad 0 \\
 5 \quad 0 \\
 5 \quad 3 \\
 \hline
 0 \quad 12 \\
 430 \quad 3 \quad 12
 \end{array}$$

The Sums

$$\begin{array}{r}
 584 \quad 9 \quad 12 \\
 265 \quad 5 \quad 12 \\
 325 \quad 8 \quad 12 \\
 430 \quad 3 \quad 12 \\
 \hline
 1606 \quad 2 \quad 12
 \end{array}$$

Triangle QOP

$$\begin{array}{r}
 20.25 \\
 16.08 \\
 \hline
 16200 \\
 121500 \\
 202.5 \\
 \hline
 325.6200
 \end{array}$$

Triangle QOR

$$\begin{array}{r}
 21.25 \\
 20.25 \\
 10625 \\
 4250 \\
 \hline
 42500 \\
 430.3125
 \end{array}$$

The Sums added

$$\begin{array}{r}
 584.85 \\
 265.42 \\
 325.62 \\
 430.31 \\
 \hline
 1606.20
 \end{array}$$

The whole Content.

V 2

The



## The Trapezia M R O N

$$\begin{array}{r} 75025.4 \\ 800211.6 \\ \hline \end{array}$$

$$2 \text{ Perpend. } 3610$$

$$\begin{array}{r} \text{The Half } 218 \\ 46X5 \\ \hline \end{array}$$

$$0051208$$

$$72$$

$$8280$$

$$192$$

$$850-2$$

$$12$$

$$12$$

## Trapezia R O Q P

$$\begin{array}{r} 213 \\ 161 \\ \hline \end{array}$$

$$2 \text{ Perpend. } 37X4$$

$$\text{The Half Base. } 20X3$$

$$7400$$

$$93$$

$$68$$

$$1$$

$$756-0$$

$$00001$$

## The Sums

$$8502\frac{10}{12}$$

$$7560$$

$$16062\frac{10}{12}$$

$$308$$

$$1X81$$

$$000$$

$$018.42$$

$$8146.16$$

$$11052$$

$$1842$$

$$11052$$

$$7368$$

$$850.2672$$

$$12$$

$$12$$

$$00001$$

$$37.33$$

$$20.25$$

$$18665$$

$$2466$$

$$74660$$

$$1$$

$$755.9325$$

$$00001$$

$$850.2672$$

$$755.9325$$

$$1606.1997$$

$$4$$

$$5$$

# VIII. Of the mensuration of Circles, and Parts of Circles.

The Proportion that the Diameter of any Circle hath to the Circumference of the same Circle, is as 7 is to 22, or (nearer the truth) as 113 to 355; but as 7 to 22 is near enough for any mensuration necessary, in the Work of this Book, I shall therefore make use of those Numbers, viz. 7 for the Diameter, and 22 for the Circumference.

## 1. Having the Diameter of a Circle, to find the Circumference.

Fig. IX.

In the Circle *ACD*, the Diameter whereof is 24 foot 6 inches, what is the Circumference?

Multiply the Diameter 24 foot 6 inches by 22, and it produceth 539, which divide by 7, and the Quotient will be 77 foot, for the circumference of the Circle, whose Diameter is 24 foot 6 inches.

Feet Inch.

$$\begin{array}{r}
 24 \text{ } 6 \\
 22 \text{ } 0 \\
 \hline
 48 \text{ } 0 \\
 480 \\
 \hline
 528 \text{ } 0 \\
 11 \text{ } 0 \\
 \hline
 539 \text{ } 0
 \end{array}$$

V 3

$$\begin{array}{r}
 24 \text{ } 6 \\
 22 \\
 \hline
 490 \\
 490 \\
 \hline
 539 \text{ } 0
 \end{array}$$

2. The

2. *The Circumference of a Circle given, to find the Diameter.*

In the same Circle, multiply 77 the Circumference) by 7, the Product will be 539, which divide by 22, and the Quotient will be  $24\frac{11}{22}$  or 24.5 for the Diameter.

$$\begin{array}{r} 77 \\ \times 7 \\ \hline 539 \\ \div 22 \\ \hline 24\frac{11}{22} \end{array}$$

3. *The Diameter of a Circle given, to find the Area or Superficial Content.*

The Proportion is,

As 28 is to 22, so is the Square of the Diameter, to the Area.

First, Square 24.5 (the Diameter) that is multiply it in it self, and it produceth 600.25, which multiply by 22, and the Product will be 13205.50 the which being divided by 28, giveth in the Quotient 471.625, or 471 foot 7  $\frac{1}{2}$  inches for the Area of the Circle.

$$\begin{array}{r} 24.5 \\ \times 24.5 \\ \hline 1225 \\ 980 \\ 490 \\ \hline 600.25 \end{array}$$

$$\begin{array}{r} 600.25 \\ \times 22 \\ \hline 120050 \\ 120050 \\ \hline 13205.50 \end{array}$$

$$\begin{array}{r} 24.5 \\ \times 24.5 \\ \hline 1225 \\ 980 \\ 490 \\ \hline 600.25 \\ \times 22 \\ \hline 120050 \\ 120050 \\ \hline 13205.50 \end{array}$$

4. The

given, *The Circumference of a Circle being given, to find the Area.*

*The Proportion is,*  
As 88 is to 7, so is the Square of the Circumference to the Area.

First, Square 77 (the Area), that is, multiply it in it self, and the product will be 5929, which multiplied by 7, produceth 41503, which Number being divided by 88 (Cyphers being added to it according to the Decimal order) the Quotient will be 471.625, or 471 foot 7 inches,

to find

77		
77		
5929		
5395		
5929		
41503		

The Area

*The measure of a Semicircle, is but taking the half of the whole Circle.*

*And a Quadrant the fourth part of the whole Circle.*

So in this Circle, *Semicircle is* — 235.8125  
*the Area of the Quadrant is* — 117.90625

Y 4-169999 CHAP

## CHAP. III

## Of the Mensuration of SOLIDS.

**A**ll Solids do consist of three dimensions, namely, *Length, Breadth and Thickness.*

## I. How to measure a Cube.

A Cube is a Solid Body, consisting of Six square Plains, whose Sides are all equal, and whose Angles are all right Angles, as is

Figure X

	Feet	Inches
Suppose a piece of Stone or Timber to be in such a form,	6	6
and every side thereof were 6	6	6
foot 6 inches long, how many	3	0
solid Feet of Stone or Timber	3	0
is therein contained.		3
First, Multiply 6 foot 6	4	2
inches by 6 foot 6 inches, the	6	6
Product will be 42 foot 3 in-	2	7
ches, and that multiply again	2	7
by 6 foot 6 inches, produceth	2	7
274 foot 7 1/2 inches: And so		7 1/2
many Feet of Solid Stone or		
Timber is contained in that		
Cubical piece, as by the work		
in the Margine appears,		

If

If this way of multiplying by feet and inches seem difficult, it may be done by Decimals:

As thus,

(Multiply 6.5 by 6.5, and the Product will be 42.25 which is 42 foot 3 inches) that multiplied again by 6.5, produceth 274.625, which is 274 foot 7 1/2 inches, as before.

There is yet a third way, whereby Superficies (and Solids also) may be measured, viz. by reducing the Feet and Inches given, all into Inches, and then to reduce the inches back again into feet: But this way (though very exact) is very tedious, and requires Division in the performance; however,

I will let you see the manner of it in the former Cube. Multiply 78 (the Number of Inches in 6 foot 6 inches) by 78, the Product is 6084. This multiplied again by 78, produceth 474552, and so many Solid or Cubical Inches are contained in that piece of Stone or Timber.

$$\begin{array}{r}
 6.5 \\
 \times 6.5 \\
 \hline
 325 \\
 390 \\
 \hline
 42.25 \\
 \times 6.5 \\
 \hline
 21125 \\
 25350 \\
 \hline
 274625
 \end{array}$$

$$\begin{array}{r}
 21125 \\
 25350 \\
 \hline
 274625
 \end{array}$$

$$\begin{array}{r}
 274625 \\
 \times 6.5 \\
 \hline
 1373125 \\
 1373125 \\
 \hline
 18055625
 \end{array}$$

$$\begin{array}{r}
 18055625 \\
 \times 6.5 \\
 \hline
 1173615625 \\
 1173615625 \\
 \hline
 11736156250
 \end{array}$$

$$\begin{array}{r}
 11736156250 \\
 \times 6.5 \\
 \hline
 762850156250 \\
 762850156250 \\
 \hline
 7628501562500
 \end{array}$$

$$\begin{array}{r}
 7628501562500 \\
 \times 6.5 \\
 \hline
 495852601562500 \\
 495852601562500 \\
 \hline
 4958526015625000
 \end{array}$$

$$\begin{array}{r}
 4958526015625000 \\
 \times 6.5 \\
 \hline
 323304191015625000 \\
 323304191015625000 \\
 \hline
 3233041910156250000
 \end{array}$$

$$\begin{array}{r}
 3233041910156250000 \\
 \times 6.5 \\
 \hline
 210147724160156250000 \\
 210147724160156250000 \\
 \hline
 2101477241601562500000
 \end{array}$$

Divide



$$\begin{array}{r}
 3 \\
 7(0 \\
 3 \times \\
 1 \times 9 \times 8(8 \\
 2 \times 8 \times 2 \\
 2 \times 3 \times 9 \times 0 \\
 4 \times 7 \times 8 \times 2 \quad (274 \\
 3 \times 7 \times 8 \times 8 \\
 2 \times 7 \times 2 \\
 2 \times 7
 \end{array}$$

$$\begin{array}{r}
 3 \\
 2 \times 8 \times 5 \\
 2 \times 8 \times 6
 \end{array}$$

foot and half a quarter of a Foot, equal to  $7\frac{1}{2}$  inches, as in the Margine.

This way you see is very tedious; wherefore I shall wholly reject it, and also when Fractions or Inches do come in the way (as for the most part they will in Solid Measure) I shall reject the former way, by multiplying Feet, Inches and parts of Inches by Feet, Inches and parts of Inches, which is very difficult, and perform all the following *Examples* by Decimal Numbers, as being (of all others) the most easie and exact, as by this following *Example* will plainly appear.

Divide this Number 474552, by 1728 (the Number of Solid Inches in one foot) and the Quotient will be 274 foot, and 1080 inches remaining, the which Number 1080 divide by 216 (the Number of Inches in half a quarter of a foot) and the Quotient will be 5 half quarters of a foot) which is half a

*A Comparative Example between Cross Multiplication and the Decimal manner of working.*

*Let it be required to multiply 5 foot 3 inches and a half, by 2 foot 4 inches and a half.*

**I. By Cross Multiplication.**

Feet In. Pts.

Set the Numbers down in this manner

5 3 6  
2 4 6

1. Multiply 5 foot by 2 foot, makes 10 foot, which set under feet.

10—0—0

2. Two times 3 inches is 6 inches, which set under inches.

0—6—0

3. Five times 4 inches is 20 inches, or 1 foot 8 inches, which set under feet and inches.

1—8—0

4. Four inches in 3 inches is 12 pts or 1 inch, which set under inches.

0—1—0

5. Multiply the parts into the feet, saying 6 times 2 is 12, which is 1 inch, and set it under inches.

0—1—0

6. Six parts by 5 foot, makes 30 parts, which is 2 inches and 6 parts, which set under inches and parts.

0—2—6

7. Multiply 6 parts into 3 inches, it makes 18 parts, or 1 part and a half, which set under parts.

0—0—1½

8. Multiply 6 parts by 4 inches, which is 24 parts, that is 2 parts, which set under parts.

0—0—2

9. Multiply 6 parts by 6 parts, it makes 36 parts, which is ½ of a part, which set down.

0—0—0½

Then add all together, and the Sum will be — 12 6 9 1½

The

*The same Decimally.*

The Decimal of 5 foot 3 $\frac{1}{2}$ inches is	5.291
The Decimal of 2 foot 4 $\frac{1}{2}$ inches is	2.374
	<hr/>
	21164
	37037
	15873
	10582
	<hr/>
The Product	12.560834

Which is the Decimal of 12 foot 6  $\frac{1}{4}$  inches.

Let any man judge which of these two ways ought to be embraced. For my part I shall make use of this last way in all the following Operations.

## II. *How to measure a Parallelogram or Long Cube.*

*Fig. XI.*

Let there be a squared piece of Stone or Timber, whose length let be 37 foot 9  $\frac{1}{2}$  inches, its breadth 14 inches, and its depth 16  $\frac{1}{2}$  inches.

*First,*

First, Multiply 1.37 (the Decimal of 1 foot 6  $\frac{1}{2}$  inches) by 1.16 (the Decimal of 1 foot 2 inches) the Product will be 1.5892. Which multiply by 37.79 (the Decimal of 37 foot 9  $\frac{1}{2}$  inches) the length of the piece, the Product will be 50.055968, which is 50 foot, and 050 parts of a foot, or a little above half an inch, and so many Solid Feet are contained in that Piece.

$$\begin{array}{r}
 1.37 \\
 1.16 \\
 \hline
 822 \\
 137 \\
 137 \\
 \hline
 1.5892 \\
 37.79 \\
 143028 \\
 111244 \\
 111244 \\
 \hline
 47676 \\
 50.055968
 \end{array}$$

### III. How to measure a Prisme, or Long Triangular Solid.

Fig. XII.

Let the Base of the Triangle at the end of the Piece be 2 foot 7  $\frac{1}{2}$  inches, the Perpendicular 1 foot 6 inches, and the length 28 foot 3 inches.

Multiply 1.31 (the Decimal of half the Base of the Triangle) by 1.5 (the Decimal of the Perpendicular) the Product will be 1.965, this number multiplied by 28.25 (the Decimal of ) 28 foot 3 inches, produceth 55.51125, or 55 foot, 51 parts, which is half a foot, for the Solidity of the Piece.

$$\begin{array}{r}
 1.31 \\
 1.5 \\
 \hline
 655 \\
 131 \\
 1965 \\
 \hline
 28.25 \\
 9825 \\
 3930 \\
 15720 \\
 3930 \\
 \hline
 55.51125
 \end{array}$$

IV. 70

IV. *To measure a Regular Solid consisting of any Number of Equal Sides and Angles.*

Fig. XIII.

Let the Solid consist of 5 equal Sides, each side being 8 inches, and the Perpendicular drawn from the Centre to the middle of the Piece be 6 inches, and the length of the Solid be 14 foot 2  $\frac{1}{2}$  inches, whose Solidity may be found as followeth.

The Number of Sides being 5, and either of them 8 inches, all of them added together make 40 inches, or 3 foot 4 inches, the half whereof is 1 foot 8 inches. Multiply 1.66 (the Decimal of 1 foot 8 inches) by .5 (the Decimal of 6 inches) the Product will be .830, which Product multiplied by 14.2 (the Decimal of 14 foot 2  $\frac{1}{2}$  inches) produceth 11.786, which is 11 foot 9  $\frac{1}{2}$  inches, for the Solidity of the Piece.

$$\begin{array}{r}
 1.66 \\
 \times .5 \\
 \hline
 .830 \\
 \times 14.2 \\
 \hline
 1660 \\
 3320 \\
 830 \\
 \hline
 11.7860
 \end{array}$$

V. *How to measure an Irregular Solid, that is such a Solid whose ends consist of unequal Sides and Angles.* As

Fig. XIV.

Let this Irregular Piece be given to be measured; First, You must find the Area of the Base A B C D, by the sixth Section of the foregoing Chapter,

Chapter, which according to the Numbers set to the Diagonal and Perpendiculars, will be found to contain 2 foot  $4\frac{1}{2}$  inches. — And this Number multiplied by 47 foot 6 inches the length, will give 112.40, or 112 foot 5 inches, almost, for the Content Solid of this Irregular Piece.

See the *Arithmetical Work.*

$$\begin{array}{r}
 1.16 \\
 2.04 \\
 \hline
 464 \\
 2320 \\
 \hline
 23664 \\
 475 \\
 \hline
 118320 \\
 165648 \\
 \hline
 94656 \\
 11240400
 \end{array}$$

# VI. How to measure Round Columns of Stone or Timber:

Fig. XV.

Let the Column or Cylinder noted with S, be 77 foot about, then will the Area of the Circle at the end thereof be found by the second, third and fourth Rules, of the 8th Section of the last Chapter to be 471.625 foot; this number being multiplied by 36 foot 6 inches the length,

$$\begin{array}{r}
 471.625 \\
 36.5 \\
 \hline
 2358125 \\
 2829750 \\
 \hline
 172143125
 \end{array}$$

the



the Product will be 17214.3325, which is  
 17214.31 foot, 31 inches, for the Solid Content,  
 a most prodigious Column.

## VII. Of a Globe or Spherical Body, as Bullets or the like, to find the Superficial and Solid Content of such Bodies.

### I. For the Superficial Content.

The Diameter of the Globe, multiplied by  
 by the Circumference of the same, shall give  
 the Superficial Content.

### II. For the Solid Content.

Multiply the Cube of the Diameter by 11,  
 and divide that Product by 21, the Quotient  
 will be the Solid Content.

#### Fig. XVI.

In the Sphere or Globe  $ABCD$ , whose Dia-  
 meter  $AC$  is 1 foot 9 inches, or 1.75 — And its  
 Circumference  $ABCD$  5 foot 6  
 inches, or 5.5, these two mul-  
 tiplied together, produce 9.625,  
 or 9 foot 7  $\frac{1}{2}$  inches, for the Su-  
 perficial Content thereof.

$$\begin{array}{r}
 1.75 \\
 \times 5.5 \\
 \hline
 8.75 \\
 9.625
 \end{array}$$

Multiply

**For the Solidity**

Multiply the Diameter 5.75 Cubically, the Product will be 5.359, and that multiplied by 11 produceth 58.949, which divide by 21, and the Quotient will be 2.807, or a foot 9  $\frac{1}{2}$  inches, for the Solid Content of the Globe.

$$\begin{array}{r} 1.75 \\ 1.75 \\ \hline 875 \end{array}$$
$$\begin{array}{r} 1225 \\ 575 \\ \hline 130625 \\ 1175 \\ \hline 153425 \\ 14375 \\ \hline 39625 \\ 359375 \end{array}$$

The floor of the tank is 1 foot  
 3 inches (or 1.25) and conse-  
 quently the rise of the water  
 level is 1 foot 3 inches (or 1.25)  
 multiplied by 1.25 = 1.5625  
 4 foot 3 inches (or 4.25)  
 of the height of the pyramid is  
 foot 9 inches (the product will be  
 1 foot 9 inches, and the  
 solid of the pyramid, and the  
 for the solid of the pyramid.

### Wlt. How to measure Cones and Pyramids.

The Solidity of any Cone or Pyramid, is found by multiplying the Area of the Base by one third part of the height.

Fig. XVII

Let the Area of the Circle at the Base of the Cone C, be 2 foot, 2.64 or  $7\frac{1}{4}$  inches, and the height thereof 11 foot 3 inches.

### Multiply

Multiply 2.64 the Decimal of 2 foot 7  $\frac{1}{2}$  inches (the Area of the Base) by 5.08 the Decimal of 5 foot 1 inch (one third part of the height, 15 foot 3 inches) the Product will be 13.411, or 13 foot 5 inches almost, for the Solidity of the Cone.

For the Quadrantal Piramis, note  
with P. 271

The side of the Base is 1 foot 3 inches (or 1.25) and consequently the Area of the Base 1 foot 6  $\frac{1}{2}$  inches (or 1.56) this multiplied by 4.33, the Decimal of 4 foot 3 inches (one third part of the height of the Pyramid 12 foot 9 inches) the Product will be 6.63 the Decimal of 6 foot 7  $\frac{1}{2}$  inches, and somewhat more for the Solidity of the Pyramid.

### IX. How to measure Frustums of Pyramids or Cones.

**Fig. XVIII.**

This Problem ( of all other of this kind )  
the most necessary, for that all Timber T  
growing (or being felled and squared ) are  
this form, greater at the one end than at the  
ther : Now for ease in working ( either by t  
Pen ( ~~by~~ by the Gunner's Line ) Artificers, and  
there, add both ends together, and take  
half thereof for the true Square, or else they

take a *Square* about the middle of the Piece for the *true Square*; but both these ways are false, and therefore I shall pass them by, and shew the most Artificial way, for the performance thereof.

## Fig. XIX.

**Example 1.** In the *Frustrum of the Quadrantal Pyramid*, mixed with *F*.

The side of the Square of the greater end is 2 foot 6 inches, and so the Area of that Base is 6 foot 3 inches, or 6.25. The side of the Square at the lesser end is 1 foot 3 inches, and so the Area of that Base (or end) is 1 foot 6 1/2 inches. — These two multiplied together, produce 9.765 6, &c. whose square Root is 3.12 — Add the Area's of the two Bases and this Square Root together, and the sum of them will be 10.93, — the which being multiplied by 7.36 (the Decimal of 1/3 of 22 foot 1 inch, one third part of the height of the *Frustrum*) the Product will be 80.44, or 80 foot 5 1/2 inches almost, for the Solidity.

See the *Arithmetical Work*.

2.5	1.25	1.5625	Greater Area —	6.25
2.5	1.25	6.25	Lesser Area —	1.56
12.5	6.25	78125	The Sq. Root —	3.12
50	250	31250	The Sum —	10.93
6.25	225	93750	1/3 of the length	7.36
1.5625	9.765625			6556

The Solid Content — 80.4448  
X 3  
Example

Example 3. *Find the Frustum of the Cone*  
which K. ...

The Area of the Circle at the Base or greater end (by the third or fourth Paragraphs of the Chapter) will be found to be 12 foot 10 inches (or 153.84) —

The Area of the Circle at the lesser end 7 foot 4 inches (or 17.35) — These multiplied together produce 94.11981 whose Square Root is 9.7016 though two Products and this Square Root added together produce 8.7016 which multiplied by one third part of the length (or height) produceth 59.74 (or 599 foot 9 inches almost) for the Solidity.

See the *Arithmetical Work* for the which being multiplied by 7.36

Greater Area  
Doller Area  
Square Root

The Sum  
of the length

The Solid Content

The 2d. Root — 3.12  
The Sum — 10.22  
For the length 7.36

Chap. IV

The Solid Content — 80.148

length of the Line  $\sqrt{13}$  Foot, 2 Inches; and  
 Terminate one Foot in the point R, with the other  
 Foot, describe the opposite Arch of Circle VV.  
 Again, Take the Foot to point Q, and Terminate one  
 given Line P, 7 Foot 10 Inches, and Terminate one

*How to take the true Dimensions of an  
 old Foundation of any House or House  
 and to draw a perfect Plan of it  
 thereon upon Paper.*

**T**O effect this, there are several ways, but I  
 shall only instance in two; both which  
 shall be familiar and easie to effect, and exact in  
 their performance; and both of them depend  
 upon one and the same Geometrical Principle;  
 so that the resolving of one Geometrical Pro-  
 blem, will do the whole work. Which  
 is this;

*Any three right Lines being given, to make of them  
 a Triangle, whose three sides shall be equal to the  
 three given right Lines.*

In the Scheme or Diagram following,  
 Let the three right Lines given, be N, O, and P,  
 of which the Line N is 14 Foot, the Line O is  
 12 Foot 2 Inches, and the Line P is 7 Foot 10  
 Inches. Now of these three Lines, let it be re-  
 quired to make a Triangle.

Upon Paper or such like, draw a right Line  
 then from any Scale of equal parts, take 14 re-  
 presenting 14 Foot, the length of the Line N,  
 and let it upon your Paper from Q to R. Then  
 from your Scale, take in your Compasses the  
 length

X 3



length of the Line O, 12 Foot, 2 Inches; and setting one Foot in the point R, with the other Foot, describe the obscure Arch of Circle VY. Again, Take from your Scale the length of the given Line P, 7 Foot 10 inches, and setting one Foot of the Compasses in Q, with the other Foot, describe another obscure Arch of a Circle XX, crossing the former Arch in the point S. Lastly, Draw the right Lines R S, and Q S; so shall you have constituted the Triangle S R Q, whose three sides are equal to the three given Lines N, O, and P.

*Note.* That of the three right Lines given, if the two lesser of them being added together, be not longer than the third Line, those three Lines will include no Triangle. As of the Numbers 2, 3 and 8; for 2 and 3 make but 5, which is less than 8 the third Line, &c.

In the Scheme or Diagram following, Fig. II. Let A B C D E F G represent the Rumbous Foundation of a House; and it is required to have a true Plat thereof drawn upon Paper.

First, In some waste Book, upon a piece of loose Paper, or upon a Board, draw the Figure of the bounds of the Foundation, as your eye judgeth them to lie. (It matters not how false you draw them; but draw just in many sides, and in the same Situation).

Secondly, With your 10 Foot Rod or Chain, measure the length of every side severally, as the side A B, 2 Foot, the side B C, 5 Foot 5 inches, the side C D, 11 Foot 6 inches, D E, 2 Foot

Foot 3 Inches, E F, 12 Foot 2 Inches, F G 7 Foot 10 Inches, and G A 12 Foot 2 Inches, all which set down in your rude or rough Draught.

Thirdly, Go to some one Corner of the Foundation, from whence you may best see, and most conveniently measure to all the other Angles. As here I go to the Corner at G, and from thence with my Rod or Chain, I measure from G, to the several Angles B, C, D, and E; And I find, that

$\left\{ \begin{array}{l} \text{G to B} \\ \text{G to C} \\ \text{G to D} \\ \text{G to E} \end{array} \right\}$	$\left\{ \begin{array}{l} 15 \text{ Foot } 1 \text{ Inch} \\ 9 \\ 13 \\ 14 \end{array} \right\}$
--	--

These Lengths also set down in your rough Draught. These Dimensions thus taken, you may by help of them, and the former Geometrical Problem, draw the true Plat thereof upon Paper at any time, as followeth.

*How by help of your Rude Draught, and the former Dimensions, to draw the true Ichthyograph of the Ground, Plat thereof upon Paper.*

First, Upon your Paper assign any convenient point, as G, for the Angle or Corner of the Foundation where you stood, and from whence you measured the Diagonal Lines GB, GC, GD, and GE, and through that point G, draw a Line at adventure for your first Diagonal GB; then (because that Diagonal Line contained 15 Foot and 1 Inch) take 15 Foot, 1 Inch from your

Scale of equal parts, and set that distance upon the Line so drawn, from G to B. Again (because the side G A of the Foundation, did contain 10 Foot 2 Inches in length) take 10 Foot 2 Inches from your Scale, and setting one Foot of that extent in G, with the other describe a small Arch of a Circle towards A, and (because the side A B, was 9 Foot) take 9 foot from your Scale, and setting one Foot of the Compass in B, with the other describe another Arch of a Circle, crossing the former Arch in the point A. Then draw the Lines G A and A B, and so have you finished two sides of your Foundation.

Secondly, Your second Diagonal being 9 Foot 4 Inches, and the side B C, 9 Foot 5 Inches, take 9 Foot 4 Inches from your Scale, and setting one Foot in G, with the other describe an Arch of a Circle towards C, also, take 9 Foot 5 Inches from your Scale, and setting one Foot in B, with the other cross the former Arch in the point C, and draw the Line B C for the third side.

Thirdly, The third Diagonal G D, containing 15 Foot 10 Inches, and the side G D, 15 Foot 6 Inches, take 15 Foot 10 Inches from your Scale, and setting one Foot in G, with the other describe an Arch of a Circle towards D, and from your Scale, taking 15 Foot 6 Inches (the side G D), set one Foot in G, and with the other describe an Arch of a Circle, cutting the former Arch in the point D, and draw the line G D, for the fourth side of the Foundation.

Fourthly, The fourth Diagonal being 14 Foot, and the side D E, 14 Foot 7 Inches, take one

of

of these numbers from your Scale, and with the distance of 29 foot 2 inches upon the point D describe an Arch towards E, and with the distance 14 foot, upon the point G, describe another Arch, cutting the former in the point E, then draw the Line D E, so is five sides of the Foundation finished.

Lastly, The side E F being 12 foot 2 inches, take that distance, and set one foot in E, and with the other draw an Arch towards F. Also the side F G, being 7 foot 10 inches, take that distance from your Scale, and setting one foot in G, with the other cross the former Arch in the point F. Then draw the Lines E F, and G F, so shall you have finished your Work; and the Figure A B C D E F G shall be a true and perfect Draught or Plat of that Foundation, the Angles containing the same quantities, as those on the ground do, (as before equally Revell (as Artificers say, is) with them). And this is one good and easy way to perform this work, and not only this, but to take the Plat of small Fields or Garden Plots also.

*Objection.* But some may Object, that in Foundations where the hollow Cellars are underneath, we cannot draw a Chain truly cross from Angle to Angle, but it will sway in the middle, and make the distance longer than it is, and if we use a Line, and strain that hard, when it is taken from its place, it will shrivel up somewhat, and so being measured, will be less than the true distance. And again, commonly in Cellars there is often Water, that you cannot pass cross in

in them, and sometimes heaps of Rubbish, which lie much higher than the Walls of the Foundation and what shall we do in such Cases?

*Answer.* I confess in long distances, a Chain will swag in the middle, and a Line hard strained will shrink, when removed from his place; but commonly in Foundations, these distances are seldom so large; but with your 10 Foot Rod, laid to the side of a Line strained and so measured, will do the work well enough. But where Rubbish lies higher than the top of the Walls of the Foundation, there some other way must be found out; and therefore I shall shew you another way to perform the same work, which will clear both this and the other *Objection*.

*A Second way to draw the Ichnographical Plan of any Foundation.*

As in the former way (so in this) upon some spare Paper, or in some Book, draw a Rude or Rough Draught of the Foundation; as your eye judgeth of it; then measure the several sides thereof, and set them down upon their respective sides in your Rough Draught, and then proceed as followeth.

In the Figure III of the following Scheme or Diagram, let the Figure HKLM represent the ruinous Foundation of some House, in the middle whereof there lies a high heap of Rubbish, so that you can in no wise measure cross the same. Having first drawn a Rough Draught, and measured the several sides, as H K 29 foot, K L 13 foot, M L 26 foot 6 inches, and M H 36 foot 8 inches,

8 inches. Go then first to the Angle H or K, or any other, and from H, measure out upon the side of the Wall 10 foot (or less as you see occasion) from H to d, also measure 10 foot (or more or less (from H to c, then from c to d strain a Line, and with your Rod measure the length thereof which suppose 14 foot, set these numbers and lines down in your Rough Draught; do the like at the Angle K, and set those down also. And by these measures you may draw a true and perfect Draught of your Foundation, as followeth.

*How to draw your fair Draught.*

First, Take a sheet of Paper, and laying your Rude Draught before you, draw a Line upon your Paper at adventure; then the side KH being 39 foot, take 39 foot from your Scale, and set it upon your Line thus drawn from H to K.

Secondly (Because you measured 10 foot from H to c, and from K to a) take 10 foot from your Scale, and set that distance upon the Line KH, from K to a, and from H to c, and also upon the points H and K, describe two Arches of Circles towards d and b.

Thirdly (Because the small Diagonal Line c d was 14 foot) take 14 foot from your Scale, setting one foot in the point c, with the other foot describe an Arch, crossing the former Arch in the point d, and through the point d, draw a Line H d M. Again (the Diagonal Line a b being 11 foot 9 inches) take 11 foot 9 inches from your Scale,



Scale, and setting one foot in a, with the other cross the former Arch in b, and through b, draw the Line K b L.

Fourthly, The side of the Foundation H M being 30 foot 8 inches, and the side K L 35, take these two numbers from your Scale, and set 35 foot from K to L, and 30 foot 8 inches, from H to M.

Lastly, Draw a Line from M to L, and so is your Work finished, and if it be true, then measuring the Line M L upon your Scale, you shall find it exactly to contain 26 foot 6 inches, agreeing to what you found it by measure.

Thus have I discovered two ways, by which any Foundation, how irregular soever, may be measured, and a Plat thereof drawn upon Paper, and by the same reason may the Plats of 2, 3, 10, or 20, lying together, or a part be performed.

Note, That the Foundations in the figures 2 and 3, are drawn by two several Scales, the one three times larger than the other.

When you have measured and laid down upon Paper the said Plat or Draught of any Piece of Ground, according to the directions given in this Chapter. You may call up the Content thereof in Superficial feet and inches, or in feet and hundred parts of a foot Decimally, by the directions given in the VII. Section of the second Chapter of this Book.

But if it were required to give the Content of the Pieces of Ground in Acres, Roods, and Perches. Then take Notice that

One	{ Perch Rood Acre }	Contains	{ 272.25 10890.00 43560.00 }	Feet.
-----	---------------------------	----------	------------------------------------	-------

So that having by the former Rules found the quantity in feet, they may be easily turned into Acres, Roods or Perches.

So the Irregular Plar, Figure VIII. (in the above named Section and Chapter) containing 1606 Superficial Feet, if you divide the same by 272.25 (or by 272 only, for the quarter of a foot is of no value in this case,) the Quotient will be 5, which is 5 Perches; and then there will be 246 foot remaining, which being again divided by 68 (the number of feet contained in one quarter of a Perch (the Quotient will be 3 and 42 remaining; which is 3 quarters of a Perch, and 42 foot over (or half a quarter of a Perch, and 3 foot over:) And so much doth that Irregular Figure VIII. contain, namely 3 Perches, 3 Quarters and half a Quarter of a Perch, and 3 foot over.

The three principal things of Carpenter's Work in Building are Floor, Partitioning and Roofing. All houses must be built in the square, and the roof must be either of Lead, Tiles, or Slates. The roof is either of Lead, Tiles, or Slates. The roof is either of Lead, Tiles, or Slates.

And in this manner may you cast up the quantity of any Figure how Irregular soever, in Acres, Roods, Perches and parts of a Perch, or Odds.

## CHAP. V.

*Of the Works of the several Artificers, relating to Building, and what method is to be observed in measuring of the same.*

**T**HE Principal Artificers relating to Building (whose Works are measurable) are the Carpenter, Bricklayer, Plasterer, Joiner, Painter, Glasser and Mason. Of which, some of their Works are measured by the Square of Ten feet, others by the Rod, others by the Yard, and some by the Foot Solid, and others by the Foot Superficial.

## I. Of Carpenters Work.

The three principal things of Carpenters Work in Building, are *Flooring, Partitioning and Roofing*. All which are measured by the Square of 10 feet every way: So that every 100 square foot is called a Square; be it either *Flooring, Roofing or Partitioning*.

**Examples**

## Examples of all Three.

## Of Flooring.

If a Floor be 57 foot 3 inches long, and 28 foot and 6 inches broad, how many Squares of Flooring is contained in that Room.

If you multiply 57 foot 3 inches by 28 foot 6 inches, the product will be 1631 foot, 7½ inches; which is 16 square, 1 quarter, and 6 foot: for the 7½ inches in these kind of Works, they are not to be regarded.

Note, that  $\left\{ \begin{array}{l} 25 \text{ foot is } 1 \text{ quarter} \\ 50 \text{ foot is } 2 \text{ quarters} \\ 75 \text{ foot is } 3 \text{ quarters} \end{array} \right\}$  of a Square.

## 2. Of Partitioning.

If a Partition or Partitions between Room and Room, should contain in length 82 foot 6 inches, and in height 12 foot 3 inches, how many Squares is there in that Partition?

Multiply 82 foot 6 inches by 12 foot 3 inches, and the product will be 1010 feet, 7½ inches; which is 10 square, 00 quarters, and 10 foot: the 7½ inches we reject. And so much in that Partition.

## 3. Of Roofing.

It is a general Rule received among Workmen, that the Flat of any House, and half the flat thereof, taken within the Walls, is equal (or shall serve) for the measure of the Roof of the same House. This way, I say, is generally received, but is not exact in all cases; wherefore sometimes other means (where it may be accomplished) must be used.

If a House, within the Walls, be 46 foot deep, and 18 foot broad, how many Square of Roofing will be to cover that House?

Multiply 46 by 18, the product will be 828, the half whereof is 414; which added to 828, the sum is 1242; that is, 12 square, 1 quarter, and 17 foot. And so many Square will be contained in that Roof.

There are divers other sorts of Carpenters Works belonging to a Building, and they are measured several ways: As,

Cantalliver Cornice, Lintell,  
Modellion Cornice, Painthouse Cornice,  
Plain Cornice, Timber-front Story,  
Guttering, Breast-somers,  
Rail and Ballasters, Shelving and Dressing, &c.

All which are measured by the Foot running measure.

There

There are also

Doors and Door-cases, Columns & Pilasters,  
Window-lights, Stairs & Stair-cases,  
Lutheren-lights with their Cupuloes,  
Ornaments, Pediments,  
Balconey-doors and Cases, Girders ends, &c.  
Celler-doors, and Curbs,

All which are measured by the Piece: *valued*

There are other things, but they are such as  
seldom come in any Bill of Admeasurement,  
which I here omit.

*Note 1.* In the measuring of Flooring, that  
(when you have taken the length and breadth,  
and cast up the Content of the whole Floor)  
you do afterwards take the dimensions of the  
Well-hole for the Stairs, and ways for the Chim-  
neys, and cast them up also; and deduct them  
out of the Content of the Flooring.

*Note 2.* That in the measuring of Partitioning,  
you make deduction for Doors and Windows  
therein, except by agreement they be includ-  
ed, and then you must say, Doors, Door-cases,  
and Windows included.

*Note 3.* That in the measuring of Roofing, there  
is seldom any deductions made: for the holes  
where the Chimney-shafts pass through, the  
vacancie for Lutheren-lights and Skie-lights, are  
more trouble to the Workman, than the Stuff  
is worth which would cover them.

II. OF



## II. Of Bricklayers Work.

The Two principal Works in a Building, performed by the Bricklayer, are Tyling, Walling, and Chimney-work; of all which I shall give Examples.

### 1. For Tyling.

For Tyling they commonly measure that by the Square of 10 foot, as the Carpenters do; so that in a Roof the difference between the Carpenters work in measure will be very little, but the Bricklayers will be more. Besides, the Bricklayer sometimes will desire to have Running Measure for Hips and Valleys; which in some cases may be allowed, but in most not.

I need not give any Example of this, because it is to be measured as the Carpenters Roof was.

### 2. For Walling.

Bricklayers do measure their Work by the Rod square, each Rod containing 16 foot, and an half in length: So that one of these Rods in length, and one in breadth, do make a Rod square, and contains upon the Superficies of the Wall 272  $\frac{1}{2}$  square feet, as will appear, if you multiply 16 foot 6 inches by 16 foot 6 inches.

There are some other things to be observed in Brickwork, as the reducing thereof to a standard-measure of one Brick and half thick, which shall be made plain by Examples.

Exam p<sup>le</sup>

## Example 1.

If a Brick-wall be 192 foot long, and 12 foot high;  
How many Rod of Brickwork is contained therein?

Multiply 192 the length, by 12 the height,  
and the product will be 2204, which being di-  
vided by 272 and  $\frac{1}{4}$ , produceth in the quotient  
8 rod and 26 foot: and so much doth the Wall  
contain upon the flat.

Note here, That when I came to divide 2204 by  
272  $\frac{1}{4}$ , the product was 8 rod 26 foot, which  
is the true and exact Result; but it being some-  
what troublesome to divide by Fractions, all  
Artificers and Workmen are contented to divide  
by 272 only; which if this 2204 had been  
divided but by 272, the quotient would have  
been 8 rod and 28 foot, which is too much  
by 2 foot: but because it is the usual way,  
I shall in the following Examples, divide on-  
ly by 272, omitting the quarter.

## Example 2.

If a Wall (or side of a House) be 24 foot 6 inches  
long, and 37 foot 8 inches broad, how many Rod  
is contained therein?

Multiply 24 foot 6 inches by 37 foot 8 inches,  
the product will be 922 foot 10 inches, which  
in this case you may call 923 foot, which di-  
vided by 272, the quotient will be 3 Rod and

107 foot remaining, which is 1 quarter of a Rod, and 39 $\frac{1}{4}$  foot over. For

682 Rods of One Rod each is 682 Rods  
 136 Rods of two Rods each is 68 Rods  
 204 Rods of three Rods each is 68 Rods

But besides this way of measuring of their Brick-work, there is another thing to be considered, viz. the Thickness of the Wall; for all Walls of the same length and height, do not contain the same quantity of Rods: for the thicker the Wall is, the more Rods are contained therein; the Standard for Brick-work being the thickness of *One Brick and half*. So that if a Wall be thicker than One Brick and half, a square Rod upon the Superficies of that Wall will contain above a Rod. And a Rod measured upon the Superficies of a Wall, which is less than one Brick and half thick, will contain less than a Rod when it is reduced to a Brick and half thick; as all Walls (of what thickness soever) must be. And so every Rod upon the Superficies of a Wall that is three Bricks thick, will contain two Rods; and a rod upon a Wall of four Bricks and a half thick, will contain three Rods, &c. And now for the ready reducing of Walls of any number of Bricks thick, to the thickness of one Brick and half, take this following

### General Rule.

Multiply the number of superficial feet, found to be contained upon the Superficies of the Wall, by the number

Fig. I.

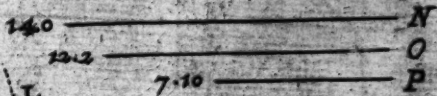
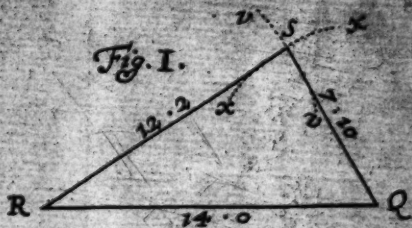


Fig. III.

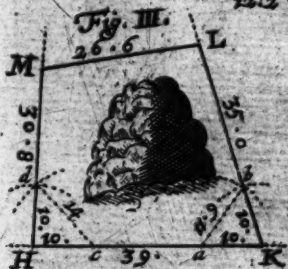
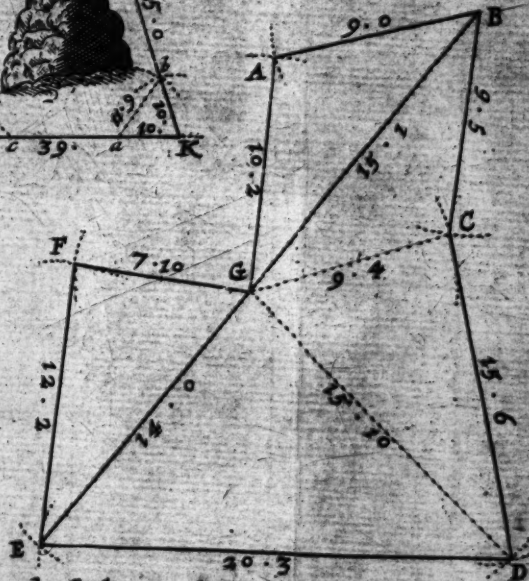


Fig. II.



At y<sup>e</sup> end of the Book

number of half Bricks which that Wall is in thickness, one third part of that Product shall be the Content of Brick-work, reduced to one Brick and half.

And by this Rule, if a Wall of 7 Bricks thick should contain 100 foot upon the Superficies, this multiplied by 14 (the number of half Bricks the Wall is thick) the product is 1400; one third part thereof is 466  $\frac{2}{3}$ . And so many foot would that Wall contain, if reduced to a Brick and half thick.

### Example 3.

If a Wall be 72 foot long, 19 foot high, and 7 Bricks thick, how many Rod of Brickwork is there contained in that Wall, when it is reduced to one Brick and half thick?

If you multiply 72 by 19, the product will be 1368; and so many superficial feet doth the Wall contain.—Now because the Wall is 14 half Bricks thick, multiply this number 1368 by 14, and the product will be 19152, one third part thereof is 6384: and so many feet doth the Wall contain, it being reduced to the thickness of one Brick and half.—Lastly, Divide 6384 by 12, the quotient will be 532 Rods, and 8 foot remaining; which is one quarter of a Rod; or 60 foot, or half a Rod wanting 8 foot. And so many Rods doth the whole Wall contain, when it is reduced to one Brick and half thick.

There

There are other things in Building, which are done by the Bricklayer, and measured in another manner, as Chimneys.

*For the measuring of Chimneys.*

Chimneys in most Buildings are agreed for to the Hearth in each Room; but sometimes they are included in the Building, and to be paid for by the Rod, and so measured with the rest of the Brick-work. — Now when Chimneys are to be measured, the dimensions are to be taken in this manner:

If the Chimney stand singly and alone, not leaning against, or being in a Wall, the usual way is to girt it about; and if the Jaums are but one Brick thick, and wrought upright over the Mantletree to the next floor, then girt it about for a length, and the height of the story shall be the breadth at one Brick thick, because of the gathering together to make room for the next Hearth above.

But if the Chimney stand against a Wall, or in a Wall, which is before measured with the rest of the Building, then the breadth of the Breadth and the depth of the two Jaums, is the length, and the height of the Story the breadth, to be multiplied one by the other, and cast up (at one Brick and half) as the Jaums are in thickness, and nothing to be deducted for the Area between the Hearth and the Mantletree, because of the Wyths, and thickning for the next Hearth above.

For the Chimney-shafts, girt them about



the smallest part, for the breadth, and take the length of the Shaft for the height, and cast them up at one Brick thick, in consideration of the Wyths, Pargetting, and Scaffolding, which is required for bringing them up.

There are also some other things, as

Cornices,	} All which are measured by the Foot running measure.
Faciots,	
Straight Arches,	
Skeene Arches,	
Hyps and Valleys in Tying,	
Water-courses,	

Also

Peers,	} Valued by the Piece.
Pilasters,	
Rustick-work, &c.	

There comes also to the Bricklayers hands the *Paving of Cellars*, or the like, with Brick; and for that they are paid by the Yard of 9 foot square. So that

#### Example 4.

*If a Cellar so Paved should be 27 foot long, and 18 foot broad, how many Yards will be contained therein?*

Multiply 27 by 18, the product will be 486 feet; which divide by 9 (because there are 9 square

Y 4

square feet in one yard ) and the quotient will be 54: and so many yards of Pavement are in that Celler.

You are here to note, That in the measuring of Brick-work, you must, when you measure the walls of a house, if you take the dimensions of the sides of the house on the outside of the house, you must take the dimensions of the ends on the inside of the walls. — And note also, that you must make deductions for all Doors and Windows in Brick-work.

Let this suffice for Bricklayers work.

### III. Of Plasterers Work.

Plasterers Work is principally of two kinds; namely (1.) Work Lathed and Plastered, which they call Cieling: (2.) Work Rendeted, which is of two kinds, viz. either upon Brick-work, or in Partitioning between the Quarters. All which they measure by the Yard-square, or the Square of 3 foot, which is 9 foot.

#### 1. For Cieling.

*If a Cieling be 58 foot 9 inches long, and 23 foot 7 inches broad, how many Yards is contained therein?*

Multiply 58 foot 9 inches by 23 foot 7 inches, the product will be 1385 foot 6  $\frac{1}{2}$  inches: the 6 inches

6 inches and  $\frac{1}{2}$  we reject, and divide 1385 by 9, the quotient is 153 yards, and 8 remaining, which is 8 foot. So that Cieling contains 153 yards 8 foot, or 154 yards wanting 1 foot.

## 2. For Partitioning.

*If a Partition or Partitions between Rooms be 132 foot about, and 12 foot high, how many yards is contained therein?*

Multiply 132 by 12, the product is 1584; which divide by 9, giveth in the quotient 176: and so many yards is contained in that Partitioning.

Note 1. If there be any Doors or Windows in your Partitioning, you must make deduction for them.

Note 2. When you measure Rendring upon Brick-work, you must account of all you measure, without deducting; but when you measure Rendring between Quarters, you may very well deduct one fifth part of the Quarters, Braces, and Entertoises.

And so much for Plaistering: Whiting and Colouring, are measured as Cieling and Partitioning is.

## IV. Of Joiners Work.

Joiners do measure all all their Work by the Yard, or Square of 3 foot, which is 9 foot, as the Plaisters do; but in the taking of their dimensions

measures they do differ: for the Joyners say, *We ought to be paid where our Plain goes.* Wherefore in taking of the height of any Room where there is a Cornice above, and swelling Pannels and Moldings downwards, you must with a Line girt over every member of the Cornice, and swellings of the Moldings; which in lusty Work will make the room much higher than it is. So much for taking the dimensions of the depths of Rooms. Then for measuring about the Room, some Joyners are so unreasonable, that they will desire a Girt that way also; but I disapprove of that, for that it maketh an unreasonable Augmentation. The Dimensions being taken, let us proceed to Computation.

#### Example 4.

*If a Room of Wainscot (being girt) do contain in height 15 foot 7 inches, and be in compass about 286 foot, how many Yards doth that Room contain?*

Multiply 286 foot by 15 foot 7 inches, the product will be 4456 foot 8 inches; which divide by 9 (the 8 inches omitted) and the quotient will be 495 yards and 1 foot: And so many yards is contained in that Room.

There is another thing to be observed in the measuring of Joyners Work, and that is in Window shutters, Cupboard-doors, and such like things as are wrought on both sides: For these they account to be paid for work and half work; for indeed the work is half more, though the Stuff be the same. Wherefore,

Example

## Example 2.

*Let the Window-shutters about the Room (all of them together) be 78 foot 4 inches, and let the height of them be 6 foot 6 inches, how many yards is contained in these shutters as Work and half?*

Multiplv 78 foot 4 inches by 6 foot 6 inches, the product will be 509 foot 2 inches, the half whereof is 254 foot 7 inches, which added together, make 763 foot 9 inches, or 764 foot, which being divided by 9, the quotient will be 84 yards and 8 foot. And so many yards are contained in those Shutters, counting Work and half Work.

*Note.* That you must make deduction for all Window-lights, and measure the Window-boards, Cheeks, and Saphetars by themselves.

## V. Of Painters Work.

The taking of the dimensions of Painters Work, is the same as that of the Joiners, by girting of the Moldings: for it is but reason that they should be paid where they spend their Paints and Colour. And the dimensions being taken, the casting up and reducing the feet into yards, is the same with that and Plastering or Joinery; but the Painter never accounts Work and half, but once, twice, or thrice done over. I need give no Example in this kind: let those be fore-going satisfy.

## VI. Of Glasiers Work.

Glasiers do measure their Work by the Foot square; so that the length and breadth being multiplied

multiplied together, produceth the Content of any Pane of Glass.

Example :

*If a Pane of Glass be 4 foot 9 inches long, and 3 foot 2 inches broad, how many foot is contained therein?*

Multiply 4 foot 9 inches by 3 foot 2 inches, the product will be 15 foot and half an inch : and so many foot is contained in that Pane.

*Note,* That when Windows have half rounds at the top, they measure them at the full height as if they were square. — Also oval or round Windows they measure at the full lengths and breadths of their Diameters. — Likewise Crocket Windows in Stone-work, are all measured by their full Squares. And there is reason for it: for the trouble in taking dimensions, the waste of Glass in working, and the trouble in setting up, is far more than the Glass is worth.

## VII. Of Masons Work.

Masons measure all their Work by the Foot, either Superficial or Solid; and therefore I need give you no Examples in this kind of Work: for the Rules before delivered in the Mensuration of Superficies and Solids, are sufficient to perform any thing that in Masonary is acquired. And therefore I will give over Measuring for this time.

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